

July 28, 2000

Mr. Stephen E. Scace, Director
Nuclear Oversight and Regulatory Affairs
Northeast Nuclear Energy Company
PO Box 128
Waterford, CT 06385

SUBJECT: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FINAL DRILL
REPORTS FOR THE MILLSTONE NUCLEAR POWER STATION

Dear Mr. Scace:

Enclosed are copies of recent transmittal letters from Mr. Setti Warren, Regional Director, FEMA Region I, to Mr. Hubert Miller, Regional Administrator, NRC Region I, forwarding the final drill reports for the October 21, 1999, East Hartford, Connecticut Host Community Reception Center Drill, the November 18, 1999 State of Connecticut Unannounced/Off Hours Drill, and the March 15, 2000 Plume Exposure Pathway Exercise for the Millstone Nuclear Power Station.

There were no deficiencies identified during these drills. However, four areas requiring corrective action (ARCA) were identified during the October 21, 1999, East Hartford, Connecticut Host Community Reception Center Drill and seven ARCAs were identified during the March 15, 2000 Plume Exposure Pathway Exercise. No ARCAs were identified during the November 18, 1999 State of Connecticut Unannounced/Off Hours Drill. Please provide assistance to the affected agencies and offsite officials to address and resolve these identified items, as appropriate, if this has not already been done.

If you have any questions concerning the enclosure, please contact me at (610) 337-5183.

Sincerely. 

/RA by Wayne D. Lanning for/

Richard J. Conte, Chief
Operational Safety Branch
Division of Reactor Safety

Docket Nos. 05000245, 05000336, 05000423
License Nos. DPR-21, DPR-65, NPF-49

Enclosures:

1. FEMA Final Drill Report for the October 21, 1999, East Hartford, Connecticut Host Community Reception Center Drill
2. FEMA Final Drill Report for the November 18, 1999 State of Connecticut Unannounced/Off Hours Drill
3. FEMA Final Drill Report for the March 15, 2000 Plume Exposure Pathway Exercise for the Millstone Nuclear Power Station.

cc w/encl:

B. D. Kenyon, President and Chief Executive Officer - NNECO
R. P. Necci, Vice President - Nuclear Technical Services
L. J. Olivier, Senior Vice President and Chief Nuclear Officer - Millstone
M. H. Brothers, Vice President - Nuclear Operations
F. C. Rothen, Vice President - Nuclear Work Services
J. T. Carlin, Vice President - Human Services - Nuclear
G. D. Hicks, Director - Nuclear Training Services
C. J. Schwarz, Station Director
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B. S. Ford, Director - Nuclear Safety and Regulatory Affairs (Unit 1 Correspondence ONLY)
R. G. Fraser, Director - Unit 1 Decommissioning (Unit 1 Correspondence ONLY)
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L. M. Cuoco, Senior Nuclear Counsel
J. R. Egan, Esquire
N. Burton, Esquire
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J. Buckingham, Department of Public Utility Control
State of Connecticut SLO Designee
First Selectmen, Town of Waterford
D. Katz, Citizens Awareness Network (CAN)
T. Concannon, Co-Chair, NEAC
R. Bassilakis, CAN
J. M. Block, Attorney, CAN
G. Winslow, Citizens Regulatory Commission (CRC)
E. Woollacott, Co-Chair, NEAC

cc w/o encl:

FEMA, Region I

Mr. Stephen E. Scace

-3-

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June 2, 2000

Hubert J. Miller, Regional Administrator
USNRC, Region I
475 Allendale Road
King of Prussia, PA 19406

Dear Mr. Miller:

Enclosed is a copy of the final drill report for the October 21, 1999 East Hartford, Connecticut Host Community Reception Center Drill of the offsite radiological emergency response plans site-specific to the Millstone Nuclear Power Station. This report addresses the evaluation of the plans and preparedness for the State of Connecticut and East Hartford, Connecticut evaluating their reception center plan. The final drill report was prepared by the Federal Emergency Management Agency, Region I staff. Copies of this report have been forwarded to the State of Connecticut.

There were no deficiencies identified during the October 21, 1999 drill. There are four Areas Requiring Corrective Action (ARCA) identified in this drill.

Based upon the results of the October 21, 1999 drill, the offsite radiological emergency response plans and preparedness for the State of Connecticut and East Hartford, Connecticut that are site specific to the Millstone Nuclear Power Station can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site.

If should have any questions, please contact Daniel McElhinney, RAC Chair, at 617-223-9567.

Sincerely,

Setti D. Warren
Regional Director

Enclosure



STATE OF CONNECTICUT, EAST HARTFORD, CONNECTICUT

HOST COMMUNITY RECEPTION CENTER DRILL

MILLSTONE NUCLEAR POWER STATION

Licensee: *Northeast Utilities*

Exercise Date: *October 21, 1999*

Report Date: *April 24, 2000*

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION I
JOHN W. McCORMACK POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109**

**EAST HARTFORD HOST COMMUNITY
RECEPTION CENTER DRILL
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I. EXECUTIVE SUMMARY

On October 21, 1999, a Host Community Reception Center Drill was conducted at East Hartford, Connecticut. The purpose of this drill was to assess the capability of the East Hartford, Connecticut Emergency Management Personnel to respond to a radiological incident involving the Millstone Nuclear Power Station. This drill was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this drill.

Protecting the public health and safety is the full-time job of some of the drill participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this drill.

This report contains the final evaluation of the Host Community Reception Center Drill.

The Host Community emergency management personnel, fire department personnel and volunteers demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no deficiencies and four Areas Requiring Corrective Action (ARCA) identified as a result of this drill.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of Radiological Emergency Response Plans (RERPs) and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Commerce
 - U.S. Nuclear Regulatory Commission
 - U.S. Environmental Protection Agency
 - U.S. Department of Energy
 - U.S. Department of Health and Human Services
 - U.S. Department of Transportation
 - U.S. Department of Agriculture
 - U.S. Department of the Interior
 - U.S. Food and Drug Administration

Representatives of these agencies serve on the FEMA Region I Regional Assistance Committee (RAC) which is chaired by FEMA.

Formal submission of the RERPs for the Millstone Nuclear Power Station (NPS) to FEMA Region I by the State of Connecticut and involved local jurisdictions occurred on September 4, 1981. Formal approval of the RERP was granted by FEMA on October 9, 1984, under 44 CFR 350.

A Host Community Reception Center Drill was conducted on October 21, 1999, by FEMA Region I to assess the capabilities of the Emergency Management Personnel of East Hartford, CT, to demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination, and registration of evacuees of a Millstone Nuclear Power Station incident. The purpose of this drill report is to present the drill results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region I RAC Chairperson, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in :

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

Section III of this report, entitled "Drill Evaluation and Results," presents information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and Areas Requiring Corrective Action (ARCAs) assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue, and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

III. DRILL EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of the East Hartford, CT Host Community Reception Center Drill conducted on October 21, 1999. The purpose of this evaluated drill was to test the readiness capabilities of the East Hartford Host Community to be able to respond to an incident involving the Millstone NPS.

Each functional entity was evaluated on the basis of its demonstration of criteria delineated in the exercise objectives contained in FEMA-REP-14 and REP-15 Exercise Manual, dated September 1991.

The following is the status of functional entities evaluated.

A. East Hartford EOC

The preponderance of EOC staff are full time municipal employees. When the alert notification came in they immediately reported to the EOC and began setting up their respective stations. The Emergency Management Director (EMD) provided the guidance and direction by briefing the staff as to what they needed to do. The EMD also received back briefings from various EOC staff members as to what their department status was at any given time. The EMD and EOC staff frequently used the various charts and graphs for reference and to keep track of the various tasks completed or to be completed. The EMD director and staff communicated using the EOC's internal telephone system as well as cellular telephones and various radio systems.

(a) MET: Objective 1,3,4

(b) DEFICIENCIES: NONE

(c) AREAS REQUIRING CORRECTIVE ACTIONS: Objective 2

38-99-02-A-01: The City Hall does not have a generator for providing back up power to the EOC in the event the primary power is lost.

Recommendation: Provide the necessary back up power, to provide adequate electrical power to the City Hall and EOC to support emergency operations.

(d) NOT DEMONSTRATED: NONE

(e) PRIOR ARCAs RESOLVED: NONE

(f) PRIOR ARCAs UNRESOLVED: NONE

B. Reception Center

The Reception Center Manager ensured that his staff was always informed as to reception center status and readiness.

Communications were constant between the center manager and his staff leaders. The frequent referral to their reception center plans and checklists demonstrated their job knowledge and ensured a successful drill. The center manager ensured that the status and center conditions were always updated on the status board so all of the staff could be aware of the current conditions. The Radiological Officer and staff demonstrated their knowledge by quickly issuing DRD's and portable survey monitors to all required staff. Briefings were given and appropriate annotations were made on the radiation records. Evacuees and their vehicles were quickly processed and identified as contaminated or clean. Evacuees were promptly monitored and decontaminated when necessary, then directed to registration for processing to congregate care for feeding and sheltering, if needed.

- (a) MET: Objective 1,2,3,4,5
- (b) DEFICIENCIES: NONE
- (c) AREAS REQUIRING CORRECTIVE ACTIONS
(ARCA): Objective 18

38-99-18-A-02: The plan requires that vehicles found to be contaminated be tagged with a red ribbon on the drivers side of the vehicle windshield. The vehicle monitoring team failed to tag the contaminated vehicle.

Recommendation: Conduct additional vehicle monitoring with emphasis on proper tagging procedures for vehicles found to be contaminated.

38-99-18-A-03: During the secondary monitoring in the portal monitoring area, the monitors placed the CDV-700 and a clipboard on a chair that had been used by a potentially contaminated evacuee, thus cross contaminating the instrument and the clipboard.

Recommendation: Use a small table to place equipment on when the need occurs. Train monitoring staff on cross-contamination control.

38-99-18-A-04: The secondary monitors continually stepped on the butcher paper, used to control contamination, while monitoring a simulated contaminated evacuee, cross contaminating the entire secondary monitoring area.

Recommendation: Train monitoring personnel in cross contamination control.

- (d) **NOT DEMONSTRATED: NONE**
- (e) **PRIOR ARCAs – RESOLVED: NONE**
- (f) **PRIOR ARCAs – UNRESOLVED: NONE**

C. CONGREGATE CARE

The Congregate Care facilities for East Hartford, CT were visited by FEMA and Red Cross personnel. The John Langford School, East Hartford Middle School, and the East Hartford High School were determined to be adequate and able to support all evacuees designated to go to these Congregate Care facilities. Red Cross Shelter surveys were available for each location.

- (a) **MET: Objective 19**
- (b) **ISSUES: NONE**
- (c) **DEFICIENCIES: NONE**
- (d) **AREAS REQUIRING CORRECTIVE ACTIONS (ARCAs) NONE**
- (e) **PRIOR ARCAs RESOLVED: NONE**
- (f) **PRIOR ARCAs UNRESOLVED: NONE**

APPENDIX 1

DRILL EVALUATORS

The following is a list of the personnel who evaluated the Host Community Reception Center and Congregate Care Drill for the Millstone Nuclear Power Station on October 20, 21, 1999.

<u>EVALUATION SITE</u>	<u>OBJECTIVE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
<u>October 20, 1999</u>			
Congregate Care Centers	19	Robert Swartz	FEMA Region I
John Langford School		Walter Anderson	FEMA Region I
East Hartford Middle School			
East Hartford High School			
<u>October 21, 1999</u>			
East Hartford EOC	1,2,3,4	Deborah Carney	FEMA Region I
Reception Center	1,2,3,4,5,18	Robert Swartz	FEMA Region I
East Hartford High School		Walter Anderson	FEMA Region I
		Deborah Carney	FEMA Region I
		Robert Poole	FEMA Region I
		Paul Ford	FEMA Region I

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 1. MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate, and staff, emergency facilities for emergency operations.

Extent of Play - General

Notification of Host Community officials will be initiated through use of a control cell phone call to the town's dispatch center simulating an emergency notification radio-pager alert. Local emergency staff will then contact appropriate emergency personnel to mobilize the emergency operations center (EOC), and subsequently, the reception centers.

Extent of Play - Specific

1. The following location and facilities will be pre-positioned and demonstrated off-line: EOC and Reception Center, at East Hartford on 10/21/99 (Time frame to be determined prior to start of the exercise.)
 2. A second shift roster will be available for inspection.
 3. Activation of Congregate Care facilities will be simulated.
-

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 2.	FACILITIES - EQUIPMENT DISPLAYS AND WORK ENVIRONMENT
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Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.

Extent of Play - General

All facilities will be equipped as they are in an actual emergency and all procedures will be carried out as in an actual emergency. All activities will be carried out as specified in the Host Community Plan except as modified herein.

Extent of Play - Specific

1. This objective will be demonstrated by the participating Host Community to include: plans, procedures, radiological emergency status board, classification schemes and communications equipment. The facility activation will be appropriate for a one-shift operation. A source of backup power and maintenance logs, if available, will be discussed.
 2. A walk through of Congregate Care Centers will be done at a time/date to be determined.
 3. Displays not applicable to the Host Community are:
 - Ingestion pathway EPZ agricultural information.
 - Radiological monitoring points.
 4. Control of access to the facilities will not be demonstrated.
-

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 3.

DIRECTION AND CONTROL

Demonstrate the capability to direct and control emergency operations.

Extent of Play - General

Direction and Control activities will be demonstrated by the Host Community organization in accordance with the Radiological Emergency Response Plan (RERP).

Extent of Play - Specific

(No site-specific modifications.)

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 4.	COMMUNICATIONS
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Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

Extent of Play - General

Primary and backup communications equipment and procedures for Host Community facilities will be demonstrated by the transmission and receipt of exercise messages. Backup communications specified in the plan will be demonstrated. All demonstrations will be accomplished by the use of communications equipment and procedures to support the implementation of emergency response actions. All activities associated with the management of communications capabilities will be demonstrated.

Extent of Play - Specific

1. Communications from the State to the Host Community will be relayed through the appropriate State Office of emergency Management (OEM) Area Coordinator.
-

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 5. EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the capability to continuously monitor and control radiation exposure to emergency personnel.

Extent of Play - General

Direct-reading dosimeters and non-self reading TLD or film badges will be distributed to a representative number of Reception Center workers who are required to have them. The full-scale ranges of the direct-reading dosimeters, the most recent evidence of their inspection for leakage and the most recent evidence of when the non-self reading dosimeters were/or need to be replaced should be recorded by the evaluator.

Each Reception Center worker assigned dosimetry should demonstrate the basic knowledge of radiation exposure limits and turn-back exposure rate values through an interview process. Procedures to monitor and record dosimeter readings and to manage radiological exposure control should be demonstrated, as they would be in an actual emergency. Evaluators should observe emergency workers to see if they take periodic dosimeter readings and record such readings on the appropriate exposure record chart or card.

All activities will be carried out as specified in the Host Community Plan except as modified herein.

Extent of Play - Specific

1. Each community has been provided with emergency worker dosimetry packets. These packets include: a thermoluminescent dosimeter (TLD), and two self-reading dosimeters (SRD) in the 0R (Roentgen) to 5R and the 0R to 200R ranges.
2. One dosimetry packet will be issued to a representative sample of six Reception Center workers as follows: one member of each of the two portal monitoring teams; one member each of the two vehicle monitoring teams; and one member each of the two (male and female) decontamination teams. One of the workers issued a packet will demonstrate dosimetry turn-in and necessary paperwork. Evaluators will be shown an inventory list of TLDs that will represent a sufficient supply for all Reception Center Workers required to wear them.
3. Emergency worker exposure control training, including a basic knowledge of exposure control procedures (turn-back values, call-in values and periodic monitoring), may be demonstrated through evaluator interviews.
4. Emergency workers will demonstrate procedures to be followed in the event that exposure limits or turn-back values are achieved. Controller inject will be used to prompt demonstration of these procedures.

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 18. RECEPTION CENTER - MONITORING, DECONTAMINATION AND REGISTRATION
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Demonstrate the adequacy of procedures, facilities, equipment and personnel for the radiological monitoring, decontamination and registration of evacuees.

Extent of Play - General

Radiological monitoring, registration and decontamination procedures for evacuated individuals, vehicle and equipment will be demonstrated at selected facilities. The East Hartford Reception Center will be activated and players simulating evacuees will be processed by the facility.

Extent of Play - Specific

1. The Town of East Hartford will activate its Reception Center for demonstration of this objective. These activities will take place out of sequence from a regular exercise scenario with control cell initial notification. Demonstration is off-line on 10/21/99.
2. The following capabilities will be demonstrated by the Reception Center activated for exercise play:

- Registration of incoming evacuees.
- Personnel radiological monitoring activities using hand-held equipment or portal monitors as available at the facility. A minimum of six people will be monitored by each of the portal monitor teams for the demonstration.

Note: If portal monitors are used during the demonstration, at least one staff radiological monitor will demonstrate hand-held instrument monitoring techniques for personnel.

- Two male and two female decontamination staff personnel will be demonstrated. Contamination control measures and decontamination techniques for at least two male and two female subjects will be demonstrated. A roster of additional trained personnel will be available for review.
 - Two vehicle-monitoring lanes will be demonstrated and three vehicles per lane will be externally monitored and parked in a designated clean or contaminated area. (One vehicle will be identified as "dirty".) A representative sample of replacement clothing and an inventory list of clothing resources available for decontaminated individuals will be shown.
-

APPENDIX 2 EXTENT of PLAY

*-Millstone Station 1999 Off-line Evaluated Host Community Exercise-
East Hartford 10/21/99*

Rev. October 12, 1999

Objective 19. CONGREGATE CARE

Demonstrate the adequacy of facilities, equipment, supplies, personnel and procedures for congregate care of evacuees.

Extent of Play - General

Demonstration of this objective will be performed out-of-sequence with the exercise scenario by a walk-through of the facility/ies involved.

- Congregate Care facility staffing will be demonstrated by presentation of a current roster to evaluators.
- Availability of equipment and material for center operation may be demonstrated by the presentation of a list of resources detailing their location and quantity.

Extent of Play - Specific

A walk-through of East Hartford Congregate Care facilities. (Dates TBD by advance coordination between FEMA, the American Red Cross and the respective towns.)
The Red Cross retains shelter survey documentation.

APPENDIX 3

EAST HARTFFORD HOST COMMUNITY RECEPTION CENTER

DRILL SCENARIO

- Message from Area 3 Coordinator (*Control Cell*) to notify host Community via telephone call at 8:00 AM.
- Dispatcher/EMD makes calls to key department heads to report to EOC and begins calling staff from call-out list.
- EOC staff begins to arrive at EOC.
- Communications check is conducted with Area 3 office.
- EOC Director briefing to EOC staff. (*Controller message from Area 3, informs Director that an evacuation of EPZ area is imminent.*)
- EOC provide support staff for activation of the Reception Center as directed.
- EOC director and Red Cross Rep. Discuss plan for opening shelter(s).
- Red Cross calls out for shelter support staff.
- Emergency response staff begins to arrive at Reception Center to set-up monitoring, decontamination and registration areas.
- Communications check from Reception Center to EOC. Communications check at Reception Center between Reception Center Manager and remote locations through out RC.
- CDV-700 survey instruments are set up and operationally checked and prepared for distribution to RMs in accordance with procedure HCP 4.4.
- Dosimetry packets are prepared and issued to emergency workers in accordance with HCP 4.3.
- Two Portal Monitors are set up and operationally checked.
- Secondary Monitoring Area set up.
- Vehicle Monitoring lanes and traffic flow is established in designated areas.
- Registration area is set up and staffed
- Reception Center Manager notifies EOC when Reception Center is staffed and ready for monitoring/decon. And registration areas are operational.
- EOC notifies Area 3 Coordinator of Reception Center operational status.
- EOC Director/EMC requests EOC staff to leave EOC to go to the Reception Center as needed to support operations.
- Vehicle Monitoring of arriving vehicles is demonstrated. Incoming vehicles are monitored and described as contaminated (2) or clean (all others) via controller message.
- Evacuees are directed to appropriate areas to park and enter Reception Center.
- Six individuals are assembled and consecutively monitored for evaluation.
- Contaminated and non-contaminated individuals are identified as they stand in the portal monitor per controller message. If contaminated, vehicle monitor teams will be contacted to

APPENDIX 3

DRILL SCENARIO

- tag vehicle for internal monitoring.
- Secondary monitors using hand survey meters to remonitor “contaminated” from portal monitors.
- Decontamination of one or more individuals (*male and female*) is conducted via verbal instructions.
- Post decontamination monitoring results of evacuees.
- Evacuee’s directed/escorted from the portal monitoring, secondary monitoring and/or decontamination stations are registered by registration staff and offered shelter information. Evacuees are provided decontamination information even if not decontaminated.
- Staff is asked by controller about actions to take when their does limit is reached.
- Drill is terminated
- Staff is directed to collect written notes, logs, forms, etc to be provided to the local emergency Management Director.
- Players conduct self-critique for comments and suggestions.

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Federal Emergency Management Agency

Region I

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Courthouse Building, Room 442
Boston, MA 02109

June 2, 2000

Hubert J. Miller, Regional Administrator
USNRC, Region I
475 Allendale Road
King of Prussia, PA 19406

Dear Mr. Miller:

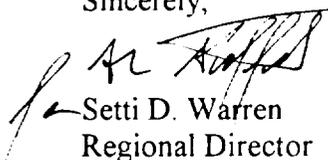
Enclosed is a copy of the final drill report for the November 18, 1999 Unannounced/Off Hours Drill of the offsite radiological emergency response plans site-specific to the Millstone Nuclear Power Station. This report addresses the evaluation of the plans and preparedness for the State of Connecticut and the emergency planning zone communities evaluating their alert and notification sections of their plans. The final drill report was prepared by the Federal Emergency Management Agency, Region I staff. Copies of this report have been forwarded to the State of Connecticut.

There were no deficiencies identified during the November 18, 1999 drill. There were no Areas Requiring Corrective Action (ARCA) identified in this drill.

Based upon the results of the November 18, 1999 drill, the offsite radiological emergency response plans and preparedness for the State of Connecticut and local emergency planning zone communities that are site specific to the Millstone Nuclear Power Station can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site.

If should have any questions, please contact Daniel McElhinney, RAC Chair, at 617-223-9567.

Sincerely,


Setti D. Warren
Regional Director

Enclosure



**STATE OF CONNECTICUT, UNANNOUNCED/OFF HOURS DRILL, CT-OEM EOC,
AREA IV EOC, MILLSTONE EPZ COMMUNITIES**

MILLSTONE NUCLEAR POWER STATION

Licensee: *Northeast Utilities*
Exercise Date: *November 18, 1999*
Report Date: *May 12, 2000*

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION I
JOHN W. McCORMACK POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109**

**UNANNOUNCED/OFF HOURS DRILL
CONNECTICUT OEM, AREA IV and MILLSTONE EPZ
COMMUNITIES**

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I. EXECUTIVE SUMMARY

On November 18, 1999, an Unannounced/Off Hours Drill was conducted at Connecticut Office of Emergency Management (OEM), Connecticut OEM AREA IV, and Millstone Nuclear Power Station (NPS) Emergency Planning Zone (EPZ) communities. The purpose of this drill was to assess the capability of emergency management personnel to respond to a radiological incident during off-hours, involving the Millstone NPS. All emergency management personnel participating in this drill were notified of a seven-day window in which the alert would be called. This drill was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this drill.

Protecting the public health and safety is the full-time job of some of the drill participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this drill.

This report contains the final evaluation of the Unannounced/Off Hours Drill.

Emergency management personnel that responded in a timely manner and with a knowledge of their plan notification and communication procedures. There were no Deficiencies and no Areas Requiring Corrective Action (ARCA) identified as a result of this drill.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:
 - U.S. Department of Commerce
 - U.S. Nuclear Regulatory Commission
 - U.S. Environmental Protection Agency
 - U.S. Department of Energy
 - U.S. Department of Health and Human Services
 - U.S. Department of Transportation
 - U.S. Department of Agriculture
 - U.S. Department of the Interior
 - U.S. Food and Drug Administration

Representatives of these agencies serve on the FEMA Region I Regional Assistance Committee (RAC) which is chaired by FEMA.

Formal submission of the RERPs for the Millstone Nuclear Power Station (NPS) to FEMA Region I by the State of Connecticut and involved local jurisdictions occurred on September 4, 1981. Formal approval of the RERP was granted by FEMA on October 9, 1984, under 44 CFR 350.

An Unannounced/Off Hours drill was conducted on November 18, 1999 by FEMA Region I to assess the capabilities of emergency management personnel in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Millstone NPS. The purpose of this drill report is to present the drill results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region I RAC Chairperson, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in :

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

Section III of this report, entitled "Drill Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them. There are no deficiencies or ARCA's in this report.

III. DRILL EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of the Unannounced/ Off Hours Drill conducted on November 18, 1999. This drill is to test the capabilities to respond to a Unannounced/ Off-Hours incident involving the Millstone Nuclear Power Station (NPS).

Each functional entity was evaluated on the basis of its demonstration of criteria delineated in the exercise objectives contained in FEMA-REP-14 Exercise Manual and FEMA-REP 15 Exercise Evaluation Methodology Manual, September 1991.

The following is a status of functional entities evaluated.

A. Connecticut Office of Emergency Management, Area IV, Millstone NPS Emergency Planning Zone (EPZ) Communities.

Key Emergency Management Staff from CT-OEM and local Millstone NPS EPZ Communities responded to the Unannounced/Off Hours Drill in a timely manner. Emergency Management personnel were alerted at the Emergency Classification Level (ECL) of Site Area Emergency,(SAE). Emergency Management personnel that responded to the alert demonstrated their knowledge of their response plans and procedures. Upon arrival to their respective EOCs they immediately began calling staff. Staff acknowledged calls and provided an estimated time of arrival (ETA). All EOCs also established communications between each other using the primary and backup systems. The drill terminated officially at 2130 hours.

There were no issues in any of the Emergency Management EOCs.

B. State and Local Jurisdictions

CT-OEM –EOC Hartford

CT-OEM, AREA IV Colechester

East Lyme – EOC

Lyme EOC

Old Lyme EOC

Groton City EOC

Groton Town EOC

Ledyard EOC

Montville EOC

New London EOC

Waterford EOC

Fishers Island EOC

(a) MET: Objective 32/33

(b) DEFICIENCIES: NONE

(c) AREAS REQUIRING CORRECTIVE ACTIONS (ARCAs)
NONE

—

UNANNOUNCED/OFFHOURS DRILL

APPENDIX 1

DRILL EVALUATORS

The following is a list of the personnel who evaluated the Unannounced/Off Hours Drill for the Millstone NPS on November 18, 1999.

<u>EVALUATION SITE</u>	<u>OBJECTIVE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
CT-OEM	32/33	Robert J. Swartz	FEMA Region I
CT-OEM AREA IV	32/33	Robert Poole	FEMA Region I
East Lyme EOC	32/33	Walter J. Anderson	FEMA Region I
Lyme	32/33	Paul Ford	FEMA Region I
Old Lyme	32/33	Mike Brazel	FEMA Region I
Groton City	32/33	Robert Waters	FEMA Region I
Groton Town	32/33	Wanda Gaudet	FEMA Region I
Ledyard	32/33	Tim McCoy	FEMA Region I
Montville	32/33	Richard Quinlan	FEMA Region I
New London	32/33	Deborah Bell	FEMA Region I
Waterford	32/33	Deborah Carney	FEMA Region I
Fishers Island	32/33	Stephen Scace	NU

APPENDIX 2

*-Millstone Station 1999 Off-line Evaluated Exercise-
-Unannounced & Off-Hours Exercise - Week of November 15, 1999-*

October 27, 1999

Objective 32. UNANNOUNCED EXERCISE OR DRILL
--

Demonstrate the capability to carry out emergency response functions in an unannounced exercise or drill.

Extent of Play - General

Notification of State and local officials associated with this objective will be demonstrated through the use of equipment and procedures that would be used in an actual emergency. Proper demonstration of this criterion entails alerting personnel who are at non-emergency duty stations or at off-duty locations prior to the start of the exercise or drill. Demonstration of this objective should begin with receipt of a message containing the declaration of an ECL which begins the alerting sequence.

Extent of Play - Specific

1. Personnel from both the State Office of Emergency Management, OEM Area 4 Office and Millstone EPZ town emergency management organizations will participate. The exercise will occur sometime during the week of November 15, 1999 and be conducted simultaneously with the "Off-Hours" drill between 6:00 PM and 4:00 AM the following morning, or anytime during the weekend.
 2. Town and State personnel must perform the following key functions as appropriate:
 - Exercise communications between the State EOC, the OEM Area 4 office and the participating EPZ towns.
 - Open and activate the respective EOCs with at least one key member.
 - Conduct an alert notification of the State and EPZ town EOC staff to determine if those personnel would be available and, if so, what would their ETA be to the EOC. (The staff do not actually report to the EOC.)
 3. Northeast Utility will begin the drill with a radio-pager drill message.
-

APPENDIX 2

*-Millstone Station 1999 Off-line Evaluated Exercise-
-Unannounced & Off-Hours Exercise - Week of November 15, 1999-*

October 27, 1999

Objective 33. OFF-HOURS EXERCISE OR DRILL
--

Demonstrate the capability to carry out emergency response functions during an off-hours exercise or drill.

Extent of Play - General

State and local officials associated with this objective should demonstrate this objective through the use of equipment and procedures that would be used in an actual emergency. Proper demonstration of this criterion entails personnel who are at non-emergency duty stations or at off-duty stations prior to the start of the exercise or drill. Demonstration of this objective should begin with the receipt of a message containing the declaration of an ECL which begins the alerting sequence.

Extent of Play - Specific

1. Personnel from the State Office of Emergency Management, the Area 4 Office and EPZ town emergency management organizations will participate. The exercise will occur sometime during the week of November 15, 1999 and be conducted simultaneously with the "Unannounced" drill between 6:00 PM and 4:00 AM the following morning, or anytime during the weekend.
-

APPENDIX 3 UNANNOUNCED/OFF HOURS DRILL

DRILL SCENARIO

The Millstone NPS control room will activate the ENRS paging system on November 18, 1999 to alert CT-OEM and local EPZ communities of a Charlie 2, Site Area Emergency (SAE) within a time window of 8:00 to 8:15 PM. None of the EOC's are to be manned. Personnel receiving emergency calls are to report immediately to their EOC. Upon arrival to the EOC personnel are to begin calling essential staff using their particular call down list. Personnel that are called are to call in and provide the caller an estimated time of arrival. Communications are to be achieved using the EOC primary method the telephone and their radio system(s). When all personnel that have been called call in and communications has been established via telephone and radio the drill terminates. The drill will terminate no later than 9:30 PM.

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Federal Emergency Management Agency

Region I

J.W. McCormack Post Office &
Courthouse Building, Room 442
Boston, MA 02109

June 8, 2000

Hubert J. Miller, Regional Administrator
USNRC, Region I
475 Allendale Road
King of Prussia, PA 19406

RECEIVED
REGION I

JUN -7 PM 1:54

Dear Mr. Miller:

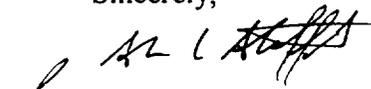
Enclosed is a copy of the final exercise report for the March 15, 2000, Millstone Nuclear Power Station. This report addresses the evaluation of the plans and preparedness for the State of Connecticut and the Millstone EPZ communities. The final drill report was prepared by the Federal Emergency Management Agency, Region I staff. Copies of this report have been forwarded to the State of Connecticut.

There were no deficiencies identified during the March 15, 2000 exercise. There are seven Areas Requiring Corrective Action (ARCA) identified in this exercise.

Based upon the results of the March 15, 2000 exercise, the offsite radiological emergency response plans and preparedness for the State of Connecticut and EPZ communities that are site specific to the Millstone Nuclear Power Station can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site.

If should have any questions, please contact Daniel McElhinney, RAC Chair, at 617-223-9567.

Sincerely,


Setti D. Warren
Regional Director

Enclosure



Final Exercise Report

MILLSTONE NUCLEAR POWER STATION

Licensee: Northeast Utilities

Exercise Date: March 15, 2000

Report Date: June 1, 2000

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION I
J.W. McCormack Post Office and Courthouse
Boston, Massachusetts 02109**

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I. EXECUTIVE SUMMARY

On March 15, 2000, an exercise was conducted in the Plume Exposure Pathway emergency planning zone (EPZ) around the Millstone Nuclear Power Station by the Federal Emergency Management Agency (FEMA), Region I. The purpose of the exercises was to assess the level of State and local preparedness in responding to a radiological emergency. The exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

The most recent exercise at this site was conducted on August 21, 1997 (plume exposure pathway) and October 8-10, 1997 (ingestion exposure pathway). The qualifying emergency preparedness exercise was conducted in 1982.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. The various agencies, organizations, and units of government from the State and local jurisdictions within the State of Connecticut who participated in this exercise are listed in Section III.B of this report.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise.

This report contains the final evaluation of the biennial exercise and the evaluation of the following out-of-sequence activities:

- School demonstrations in New London and Waterford, March 16, 2000.
- Norwich Host Community EOC, March 4, 2000, and Congregate Care Facilities, February 22, 2000.
- Nursing Homes, March 16, 2000.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies and 7 Areas Requiring Corrective Action (ARCA) identified as a result of this exercise.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;
- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;
- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and
- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:

U.S. Department of Commerce,
U.S. Nuclear Regulatory Commission,
U.S. Environmental Protection Agency,
U.S. Department of Energy,
U.S. Department of Health and Human Services,
U.S. Department of Transportation,
U.S. Department of Agriculture,
U.S. Department of the Interior, and
U.S. Food and Drug Administration.

Representatives of these agencies serve on the FEMA Region I Regional Assistance Committee (RAC) which is chaired by FEMA.

Formal submission of the RERPs for the Millstone Nuclear Power Station to FEMA Region I by the State of Connecticut and involved local jurisdictions occurred in 1982. Formal approval of the RERP was granted by FEMA in October 1984, under 44 CFR 350.

A REP exercise was conducted on March 15, 2000, by FEMA Region I to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Millstone Nuclear Power Station. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region I RAC Chairperson, and approved by the Regional Director.

The criteria utilized in the FEMA evaluation process are contained in :

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise objectives at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the March 15, 2000, Plume Exposure Pathway exercise to test the offsite emergency response capabilities in the area surrounding the Millstone Nuclear Power Station. This section of the exercise report includes a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

The area within ten miles of the Millstone Nuclear Power Station is located in the States of Connecticut and New York. The eight Connecticut communities within the Millstone EPZ are entirely located in New London County. The one New York community and the Plum Island Animal Disease Center (PIADC), a USDA research facility, are located in Suffolk County. Millstone Station is located on the coast of Connecticut, in the Town of Waterford, and is adjacent to Long Island Sound.

Based on the 1990 census, the total population of the EPZ is 128,600, with the permanent population of those New York portions of the EPZ being approximately 300.

Two parallel Amtrak freight and passenger lines run east-west along the coast through the Connecticut portion of the EPZ, passing across the utility owner controlled property. Major highways within the EPZ include Interstate 95, running east-west approximately four miles north of the site, and Interstate 395 running approximately north beginning about four miles north of the site.

Public institutions, aside from schools and churches, within the EPZ include the PIADC, the Niantic Correctional Facility, Lawrence and Memorial Hospital, the United States Coast Guard Academy, the United States Naval Submarine Base at New London (Groton), the Naval Undersea Warfare Center, and the Rocky Neck State Park.

The EPZ is divided into six zones for the purpose of emergency response planning and implementation of protective actions.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the Millstone Nuclear Power Station Plume Exposure Pathway exercise on March 15, 2000.

STATE OF CONNECTICUT

STATE EMERGENCY OPERATIONS CENTER (EOC)

Governor's Office
Connecticut National Guard
Connecticut Office of Emergency Management
Connecticut Department of Public Health
Connecticut Department of Agriculture
Connecticut Department of Consumer Protection
Connecticut Department of Transportation
Connecticut State Police
Connecticut Commission on Deaf and Hearing Impaired
Connecticut Department of Corrections
New York State – Emergency Management Office
Federal Emergency Management Agency
U.S. Nuclear Regulatory Commission
U.S. Coast Guard
Northeast Utilities

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Connecticut Department of Agriculture
Connecticut Department of Environmental Protection
Connecticut Office of Emergency Management
Connecticut Department of Environmental Protection, Division
of Radiation
Northeast Utilities

EMERGENCY OPERATIONS FACILITY (EOF)

Millstone Nuclear Power Station Staff
Connecticut Department of Environmental Protection
U.S. Nuclear Regulatory Commission

STATE FIELD MONITORING TEAMS

Connecticut Department of Environmental Protection
Connecticut Department of Environmental Protection – Hazardous
Materials & Spill Response
Connecticut Department of Environmental Protection – Radiation
Control Program

JOINT MEDIA CENTER

Connecticut Department of Agriculture
Connecticut Department of Public Health
Connecticut Governor's Press Secretary
Connecticut Office of Emergency Management
Connecticut State Police
Northeast Utilities
U.S. Nuclear Regulatory Commission
U.S. Coast Guard

STATE DEPARTMENT OF PUBLIC HEALTH (DPH) EOC

Department of Public Health

OEM AREA IV, COLCHESTER

Connecticut Office of Emergency Management
Connecticut State Police
Regional Dispatch Center (KX) 911 Dispatchers

STATE POLICE ACCESS CONTROL POINTS/TRAFFIC CONTROL POINTS

Connecticut State Police, Troop E
State Department of Transportation

STATE TRANSPORTATION STAGING AREA (TSA)

Connecticut Office of Emergency Management – Headquarters
Connecticut Office of Emergency Management Area 3 Office
Connecticut State Veterans Home
East Lyme Emergency Operations Center
Mariner Health at Bride Brook (Nursing Home)
Rocky Hill Police (simulated)
Southern Connecticut University (Reception Center simulated)

CONNECTICUT DEPARTMENT OF TRANSPORTATION – NORWICH

RISK JURISDICTIONS

EAST LYME EOC

Amateur Radio Emergency System
Connecticut State Police
East Lyme First Selectman
East Lyme Emergency Communications
East Lyme Emergency Management
East Lyme Fire Marshal
East Lyme Health Department
East Lyme Local Police
East Lyme Public School Board of Education
East Lyme Public Works

HAMLET OF FISHERS ISLAND, NY, EOC

Fishers Island Emergency Management
Fishers Island Fire Department
New York State Emergency Management Office
New York State Police
Town of Southold, Suffolk County, New York

CITY OF GROTON EOC

City of Groton – Mayor’s Office
City of Groton – Civil Preparedness Director
City of Groton Fire Department
City of Groton Police Department
Groton City Utilities
Groton City Highway Department
HAM
Parks and Recreation
Zoning and Building
General Dynamics/Electric Boat Division
Pfizer
EB Security

TOWN OF GROTON EOC

Town of Groton – Town Manager
Town of Groton – Civil Preparedness Director
Groton Ambulance Association
Groton Public Schools
Ledgelight Health District
Poquonnock Bridge Fire Department

LEDYARD EOC

Town of Ledyard Emergency Management Director
Town of Ledyard Emergency Management Staff
Town of Ledyard 911 Dispatch Office
Town of Ledyard Health Department
Town of Ledyard Mayor
Town of Ledyard Police Department
Town of Ledyard Public Works Department

LYME EOC

Lyme Emergency Management
Lyme Fire Department
Lyme Selectman
Town Volunteers

MONTVILLE EOC

Civil Preparedness Director of the Town of Montville
Civil Preparedness Staff of the Town of Montville
Chesterfield Fire Chief
Councilman of the Town of Montville
Employees of Electric Boat Company
Mayor of the Town of Montville
Montville Police
Montville Public Works Dept
Superintendent of Town of Montville Schools

CITY OF NEW LONDON EOC

City Manager
Civil Preparedness Director
Assistant Civil Preparedness Director
Welfare Department
Public Health
Fire Chief
Police Chief
Parks and Recreation
Acting School Superintendent

OLD LYME EOC

Old Lyme Selectman
Old Lyme Emergency Management Director
Old Lyme Police Department
Old Lyme Fire Department
Old Lyme Public Works Director
Volunteers

WATERFORD EOC

Waterford Board of Education
Waterford Building Department
Waterford Department of Public Works
Waterford EMAC Special Needs
Waterford Emergency Management
Waterford Fire Marshal Office
Waterford First Selectman
Waterford Outreach Assistant
Waterford Planning, Building and Health Dept.
Waterford Police Department
Waterford Recreation and Parks
Waterford Tax Assessor Office
Waterford Tax Collector's Office
Waterford Water Pollution Control

SCHOOLS/BUS EVACUATION

CITY OF NEW LONDON

Harbor School

WATERFORD

Southwest School

SPECIAL POPULATIONS - NURSING HOMES

Beechwood Nursing Home (New London)
Nutmeg Nursing Home (New London)
Groton Regency Center (Groton)
Fairview Nursing Home (Groton)

SUPPORT JURISDICTIONS

NORWICH EOC

Emergency Management Director
Assistant City Manager
Fire Department
Police Department
Health Department
Department of Public Works
Transportation Coordinator
Social Services Officer
Dosimetry Coordinator
Status Board Operator

NORWICH CONGREGATE CARE FACILITIES

Norwich Emergency Management Director
American Red Cross

PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross
Local Volunteers from Area IV towns
RACES – Amateur Radio Operators

C. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the Millstone Nuclear Power Station Plume Exposure Pathway exercise on March 15, 2000. Also included are times notifications were made to the participating jurisdictions/functional entities.

Table 1. Exercise Timeline

DATE AND SITE: March 15, 2000, Millstone Nuclear Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken									
		STATE EOC	EOF	AREA IV	MEDIA CENTER	EAST LYME	FISHERS ISLAND	TOWN OF GROTON	CITY OF GROTON	LEDYARD	LYME
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alert	0828	0845	0828	0846	0846	0847	0843	0844	0848	0851	0848
Site Area Emergency	1021	1034	1021	1034	1034	1035	1034	1037	1033	1035	1034
General Emergency	1242	1254	1242	1253	Press Brief 1335	1254	1253	1255	1251	1304	1257
Simulated Rad. Release Started	1231		1231			1024	1242	1301		1304	1021
Simulated Rad. Release Terminated	1351		1351	1408		1408	1408	1422		1425	1242
Facility Declared Operational		1006	0907	1017	1008	1120	1020	1018	0954	1045	0923
Declaration of State of Emergency		1045	1108	1051	Press Brief 1100	1054	1055	1050	1045	1048	1054
Exercise Terminated		1450	1447	1450	1450	1450	1448	1450	1450	1449	1450
Early Precautionary Actions: 10 Mile EPZ State Parks,, Forests, Boat Launches Closed. (completed at 1000)		0852	School Groton 1147	1020			1045		1032	1025	1025
Livestock on Stored Feed and Water		1050		1120	Press Release 1130		1128		1107		
Early School Actions:										Early School Relocation 1100	
1st Decision		1039			Press Release 1050					1044	
1st Siren Activation		1046		1044	Press Release 1050	1046	1045	1045	1046	1046	1046
1st EAS Message		1048			Press Release 1050					1048	
1st Protective Action Decision Shelter: Areas C, D Evacuate: Areas A, B, E, F		1317	1247	1317	Press Brief 1335		1319			1324	
2nd Siren Activation		1320		1320	Press Brief 1335	1322	1319	1318	1320	1318	1318
2nd EAS Message		1323			Press Brief 1335					1324	
KI Administration Decision: None							N/A	N/A (1325)	N/A	N/A	N/A

Table 1. Exercise Timeline

DATE AND SITE: March 15, 2000, Millstone Nuclear Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken											
		STATE EOC	MONT-VILLE	NEW LONDON	OLD LYME	WATER-FORD	CSP Montville						
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
Alert	0828	0845	0847	0845	0844	0835	0846						
Site Area Emergency	1021	1034	1033	1039	1034	1030	1028						
General Emergency	1242	1254	1256	1257	1259	1300	1253						
Simulated Rad. Release Started	1231		1033	1257	1259	1300							
Simulated Rad. Release Terminated	1351		1427		1408	1428							
Facility Declared Operational		1006	0940	0905	0915	0855	0852						
Declaration of State of Emergency		1045	1055	1054	1045	1045	1105						
Exercise Terminated		1450	1448	1450	1450	1450	1450						
Early Precautionary Actions: 10-Mile EPZ. State Parks, Forests, Boat Launches Closed		0852	1025	1043	1025	Beach Closing 1025							
Livestock on Stored Feed and Water		1130		1129	1125	0946 Local Ag. 1125 State Ag.							
Early School Actions:				1150 Early Dismissal									
1st Decision		1039		1050									
1st Siren Activation		1046	1046	1044	1046	1044							
1st EAS or EBS Message		1048		1058	1045								
1st Protective Action Decision Shelter: C, D Evacuate: A, B, E, F		1317			1320								
2nd Siren Activation		1320	1318	1318	1320	1317							
2nd EAS Message		1323											
KI Administration Decision: None				N/A	N/A	1320 Not to Take							

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the March 15, 2000, plume exposure pathway exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Millstone Nuclear Power Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in FEMA-REP-14, REP Exercise Manual, September 1991. Detailed information on the exercise objectives and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation - Table 2

The matrix presented in Table 2, on the following page(s), presents the status of all exercise objectives from FEMA-REP-14 which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise objectives are listed by number and the demonstration status of those objectives is indicated by the use of the following letters:

- M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)
- D - Deficiency assessed
- A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)
- N - Not Demonstrated (Reason explained in Subsection B)

Table 2. Summary Results of Exercise Evaluation

DATE AND SITE: March 15, 2000, Millstone Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
STATE OF CONNECTICUT																																		
State Emergency Operations Center	M	M	M	A	A					M			M	M	M	M	M							M										
Department of Environmental Protection					M		M		M					M																				
Emergency Operations Facility	M	M		M	M		M																											
State Field Monitoring Team				M	M	M		M						M																				
State Field Monitoring Team				M	M	M		M						M																				
Joint Media Center												A	A																	A				
State Department of Public Health	M	M		M											M																			
OEM Area IV, Colchester	M	M	M	M						M																								
State Police ACPs/TCPs				M	M									M			M																	
State Department of Transportation				M	M									M			M																	
State Transportation Staging Area (TSA)	M	M	M	M	M									A																				
RISK JURISDICTIONS																																		
East Lyme	M	M	M	M	A					M					M	M	M															M		
Hamlet of Fishers Island, NY	M	M	M	M	M					M					M	M	M															M		
City of Groton	M	M	M	M	M					M					M	M	M															M		
Town of Groton	M	M	M	M	A					M					M	M	M															M		
Ledyard	M	M	M	M	M					M					M	M	M																	
Lyme	M	M	M	M	M					M					M	M	M															M		
Montville	M	M	M	M	M					M					M	M	M															M		
City of New London	M	M	M	M	M					M					M	M	M															M		
Old Lyme	M	M	M	M	M					M					M	M	M															A		
Waterford	M	M	M	M	M					M				M	M	M	M														M	M		
Schools/Bus Evacuation																																		
City of New London																M																		
Waterford																M																		
Special Populations - Nursing Homes															M																			

LEGEND:

M = Met (No Deficiency or ARCAs assessed and no unresolved prior ARCAs)

A = ARCA(s) assessed and/or unresolved prior ARCAs

N = Not Demonstrated

D = Deficiency(ies) assessed

Blank = Not scheduled for demonstration

B. Status of Jurisdictions Evaluation

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to objective demonstration status.

- **Met** - Listing of the demonstrated exercise objectives under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.
- **Deficiency** - Listing of the demonstrated exercise objectives under which one or more Deficiencies was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.
- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise objectives under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.
- **Not Demonstrated** - Listing of the exercise objectives which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.
- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises which were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises which were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues which are discussed in this report.

- **A Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** - A two-digit number corresponding to the Utility Billable Plant Site Codes.
- **Exercise Year** - The last two digits of the year the exercise was conducted.
- **Objective Number** - A two-digit number corresponding to the objective numbers in FEMA-REP-14.
- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.
- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

1. STATE OF CONNECTICUT

1.1 State Emergency Operations Center

The Emergency Management Director demonstrated outstanding direction and control during this exercise. The entire EOC staff worked well together. The response was a coordinated effort by all agencies involved. The operations officer ensured that the players were up to date with all pertinent information. Every staff member was knowledgeable with his or her assigned roles. Excellent use was made of the Northeast Utilities Executive Spokesman to explain the plant situation to SEOC staff and to the EPZ communities via the conferencing system. All key staff were involved in the recommendation process. Communications with the local EOCs was enhanced by the implementation of conference calls between them and the SEOC. This conference calling gave an assurance that the State Government was concerned and cared about the local communities. State EOC staff involved in communications were well-trained and knowledgeable about the comprehensive array of communications systems available for the emergency response. The procedures and systems available for the rapid formulation and dissemination of EAS messages to the public are particularly good, especially the capability to broadcast EAS messages directly from the State EOC. The participating State agencies demonstrated a strong cooperative effort. The improved automation in all sections of the EOC enhanced the operations and information resources. The new automation allowed all EOC staff to communicate with each other as well as with outside agencies.

- a. **MET:** Objectives 1, 2, 3, 10, 13, 14, 15, 16, 17, and 23
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 4

Issue No.: 38-00-04-A-01

Description: A new pager system from Millstone for use by key personnel was used throughout the exercise. The system generally reached one of several pagers, but was unreliable for all key persons to receive messages. Typically, out of five pagers, one would receive a complete message, and the other pagers received garbled messages, if received at all. (Objective 4) (NUREG-0654, E.1, E.2, F.1a)

Recommendation: Determine the problem of erratic readouts on pagers and correct these problems in order to obtain accurate and complete pager messages.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

- d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 38-95-05-A-02

Description: Prior to use, all survey instruments were battery checked and tested with a check source for operability. The procedure and instructions, attached to the instrument, indicate that the survey instruments should respond to the check source with a meter movement of one half way up the scale on the times 10 range setting. Not all of the instruments met the source check requirements of the procedure, but they were declared operational and put into use anyway. (Objective 5) (NUREG-0654, H.10, I.7, I.8)

Corrective Action Demonstrated: ARCA 38-95-05-A-02 is now resolved. CT Calibration and Repair Facility now applies range of reading labels to all of their survey meters used throughout the Millstone NPS EPZ area.

Issue No.: 38-95-16-A-07

Description: Information available to the SEOC regarding precautionary actions for schools, as implemented by local governments, was uncertain, and actions were not taken to clarify their status with Area IV or the EOCs of EPZ communities. Detailed information regarding the implementation of precautionary actions for schools was incomplete. (Objective 16) (NUREG-0654, J.9, J.10.d, J.10.g)

Corrective Action Demonstrated: The State was notified of a precautionary early dismissal of school children by the City of Groton and Town of Groton. This information was passed to the State Director and public affairs staff. It was included in a State news release at 1115 hours and in media briefings.

Issue No.: 38-97-05-A-09

Description: Electrical leakage check dates were not available for any DRD. (Objective 5) (NUREG-0654, H.10, K.3.a)

Corrective Action Demonstrated: Electrical leakage dates are now posted on all DRDs used throughout the Millstone NPS EPZ.

f. **PRIOR ARCAs - UNRESOLVED:**

Issue No: 38-95-05-A-03

Description: Bus drivers were not issued dosimetry. (Objective 5) (NUREG-0654, K.3.a)

Reason ARCA Unresolved: CT still does not issue dosimetry to bus drivers (March 2000).

Recommendation: CT-OEM should change their policy and consider school bus drivers as emergency workers. CT-OEM should change their plan to provide for the training and issue of dosimetry to the school bus drivers.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

1.2 Department of Environmental Protection (DEP)

The Department of Environmental Protection/Department of Radiation Director (DEP/DOR) and his staff were knowledgeable of the plan, procedures and data required, not only for the development of protective actions, but also, as a guide for the use of field teams. They were used extensively to independently assess the radiological situation. The staff effectively used their communication pathways to obtain and verify data both from the utility and from their own field teams. The DEP DOR staff performed their functions very smoothly and supported others, both in their own organization and other State agencies. They followed their procedures and were proactive in their approach to the changing conditions.

- a. **MET:** Objectives 5, 9, and 14
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 38-97-07-A-01

Description: The bases for Protective Actions are that the radiation dose avoided is in correct relation to the risks and costs of the action. The total effective dose equivalent (TEDE) is a measure of the potential risk that may be avoided by the protective action while the Protective Action Guide (PAG) is radiation dose that represents a balance as to the risks and costs of the protective action. When the TEDE is greater than the PAG, a Protective Action is indicated.

The DEP did not estimate a projected dose based on a projected time of release when source term information was first made available at approximately 1317 hours (see Millstone Unit I ADAM Data Sheet, Time step 8/15; 1315). Previously they made protective action recommendations based on plant conditions only, with further considerations based on field team, dose rate information.

While this DEP procedure is an acceptable, timely and conservative protection of public health, accident assessment is not complete without also making timely dose projections to assure that the recommended protective actions are adequate and to give a full picture of accident conditions. (Objective 7) (NUREG-0654, I.10)

Corrective Action Demonstrated: Plume dose projections were performed at the SEOC by the Department of Environmental Protection, Division of Radiation (DEPDOR) Staff. Two computer programs were used, ADAM and IDA. ADAM was used to produce a plume plot that showed the expected location of the plume and the external exposure rates in the plume. IDA was used to project the total effective dose equivalent (TEDE), plume and ground deep dose equivalents (DDE), committed effective dose equivalent (CEDE), and thyroid committed dose equivalent (CDE); the TEDE and thyroid CDE was compared to the PAGs to determine if additional protective actions would be necessary. Although the IDA program is listed under the prerequisite documents in the Connecticut Agency Procedure DEPDOR-2, its use is not mentioned in the Dose Assessment Staff Checklist for ALERT (Charlie 1), SITE AREA EMERGENCY (Charlie 2), GENERAL EMERGENCY (Bravo/Alpha) (Attachment 1, Sheet 1 of 3, of DEPDOR-2).

Input data for the projections (such as plant conditions, source terms, meteorological conditions, etc.) were received from the utility by the Northeast Utilities representatives in the SEOC, from the DEPDOR representative at the EOF, and from the field monitoring teams. Both ADAM and IDA projections were performed on plant conditions. Additional IDA projections were performed assuming a default release rate. The initial dose projection using IDA after the beginning of the simulated release was performed at 1249 for the time step 1231-1245 and was compared to the utility's projection (faxed to the SEOC at 1305); the differences were within a factor of 10. This projection included the actual gross release rate (calculated from the stack monitor reading by the utility) and a default release duration of 2 hours. An estimated release duration based on the time estimated to repair a stuck valve did not differ significantly from the default duration.

Issue No.: 38-97-07-A-02

Description: The current ADAM dose projection code (ver 1.2) does not directly estimate the total effective dose equivalent (TEDE) as required by the State Plan (RERP-9.0, Rev. 1, 2 of 14). Rather it gives the deep dose equivalent (DDE). This means that it does not include adequate consideration of the radiation dose due to inhalation of radionuclides and for radiation dose due to radio nuclides on the ground. In addition, the code does not directly and easily estimate a projected dose due to a source term that could continue for extended periods. (Objective 7) (NUREG-0654, I.10)

Corrective Action Demonstrated: Plume dose projections were performed at the SEOC by the Department of Environmental Protection, Division of Radiation (DEPDOR) Staff. Two computer programs were used, ADAM and IDA. ADAM was used to produce a plume plot that showed the expected location of the plume and the external exposure rates in the plume. IDA was used to project the total effective dose equivalent (TEDE), plume and ground deep dose equivalents (DDE), committed effective dose equivalent (CEDE), and thyroid committed dose equivalent (CDE); the TEDE and thyroid CDE was compared to the PAGs to determine if additional protective actions would be necessary.

f. PRIOR ARCAs - UNRESOLVED: None

1.3 Emergency Operations Facility (EOF)

The State Department of Environmental Protection EOF Liaison Officer (DEP liaison) assures that the State is provided with the best and most current information available. Using the information obtained in part from its liaison, the State performs independent dose assessments and assures that protective action decisions are performed in a timely manner. The DEP liaison performed this task very well throughout the exercise. Information was consistently passed on to the State EOC as soon as it became available. In addition, the DEP liaison was frequently called on to answer questions, both for the State and, on occasion, for the NRC. The DEP liaison clearly had a very good understanding of the EOF operations and staff assignments. Using his knowledge of the facility, the liaison was able to quickly respond to all requests sent his way.

a. MET: Objectives 1, 2, 4, 5, and 7

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

1.4 State Field Monitoring Teams

1.4.1 Field Monitoring Team

The members of field monitoring team "Alpha" were very familiar with their sampling procedures. They were able to respond to the evaluator's questions confidently and correctly.

- a. **MET: Objectives 4, 5, 6, 8, and 14**
- b. **DEFICIENCY: None**
- c. **AREAS REQUIRING CORRECTIVE ACTION: None**
- d. **NOT DEMONSTRATED: None**
- e. **PRIOR ARCAs - RESOLVED: None**
- f. **PRIOR ARCAs - UNRESOLVED: None**

1.4.2 Field Monitoring Team

Field Monitoring Team B did an excellent job in locating their sampling locations, performing measurements, collecting air samples, and promptly transmitting the data to the Field Team Coordinator at the State EOC. Their exposure control procedures were also very good. In all, they demonstrated an excellent knowledge of their procedures.

- a. **MET: Objectives 4, 5, 6, 8, and 14**
- b. **DEFICIENCY: None**
- c. **AREAS REQUIRING CORRECTIVE ACTION: None**
- d. **NOT DEMONSTRATED: None**
- e. **PRIOR ARCAs - RESOLVED: None**
- f. **PRIOR ARCAs - UNRESOLVED: None**

1.5 Joint Media Center

The joint media staff demonstrated strong coordination by the participating organizations with a clear, consistent and accurate information flow to the media. The use of media students from the Connecticut School of Broadcasting challenged the information briefers by asking more appropriate media type questions. Briefers were also video taped and

could use the videotape after the exercise for critiquing themselves as well as any charts that were used to present information to the media.

- a. **MET:** None
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objectives 11 and 12

Issue No.: 38-00-11-A-02

Description: Although the EAS messages and press releases generally provided clear, thorough, and consistent emergency information for the public, several statements in Press Release #7 regarding precautionary protection of food, milk, and water supplies were unclear and subject to misinterpretation. For example, one statement recommended that, "All harvested crops should be closed and surface waters should be covered." The meaning of "crops should be closed" is unclear. It is also unclear which "surface waters" are to be covered, since streams, large ponds, and inlets are surface waters, but would be impractical to cover. This lack of specificity is also present in another statement which recommends that, "Water cisterns should be closed and other surface waters closed or covered." (Objective 11) (NUREG-0654, E.5, E.7, G.4)

Recommendation: The wording of statements in press releases should be carefully reviewed for clarity and specificity prior to release to minimize the possibility of misinterpretation by the public.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

Issue No.: 38-00-12-A-03

Description: The Status Board at the Joint Media Center was not consistently maintained nor updated in a timely manner beyond the Site Area Emergency ECL. Media representatives were not being consistently apprised of the status at the plant. (Objective 12) (NUREG-0654, G.3.a, G.4)

Recommendation: The Status Board should be consistently and regularly updated to reflect current conditions. Each press briefing should begin with an update of the current status detailing conditions at the plant and the current emergency classification level.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

- d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 38-97-11-A-03

Description: EAS message #1 (MP-0) stated that, "the Governor has not recommended any actions by the public," when in fact, he had ordered the closure of state parks and placing farm animals on stored feed. Moreover, a related news release (#3) added advisory topics, including harvested crops, milk supplies and water cisterns, which had not been included in the Governor's precautionary measures. (Objective 11) (NUREG-0654, E.5, E.7, J.9, J.11)

Corrective Action Demonstrated: Because of the condensed nature of the new EAS messages, information on precautionary actions is not required to be presented in the EAS messages, but is presented in supplementary press releases and briefings. During the exercise the press releases accurately reflected the precautionary and protective action decisions of the Governor and State agency officials.

Issue No.: 38-97-12-A-04

Description: The issue of what to leave behind when evacuating was not mentioned in media briefings, news releases or printed materials for the public. In briefings the term precautionary action was used, while visual aids used the term protective actions. News release #5 includes inaccurate information, stating that the Governor upgraded the situation. During the 1330 news briefing the Millstone NPS presenter did not have visual aids present. It was apparent that spokespersons had not coordinated their information prior to the news briefings. (Objective 12) (NUREG-0654, E.7, G.3.a, G.4.a, G.4.b, G.4.c)

Corrective Action Demonstrated: Visual aids were available and used to clarify presented topics. Prior to the briefing, all participating organizations coordinated the material to be presented to ensure consistency and clarity. Care was taken to clarify the use of terminology in particular the terms "precautionary action" and "protective action" were used appropriately and correctly.

f. **PRIOR ARCAs - UNRESOLVED:**

Issue No.: 38-97-27-A-05

Description: The brochure containing agricultural information was deemed inappropriate for distribution by state officials and yet was not withdrawn from the Media Center. (Objective 27) (NUREG-0654, J.11)

Reason ARCA Unresolved: Objective 27 not scheduled for demonstration during the March 2000 exercise.

Recommendation: Demonstrate at a future exercise.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

1.6 State Department of Public Health (DPH)

The Department of Public Health designed a computer program that contained information on news releases, an electronic log that was directly linked to the EOC. This was a first time use of this system and it worked very well.

The agency has a well trained team and used this opportunity to train new individuals as well. The set up of the Command Room was completed, with everyone's help, in a matter of a few minutes

- a. **MET:** Objectives 1, 2, 4, and 15
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

1.7 OEM Area IV, Colchester

The Area IV Coordinator demonstrated excellent leadership skills in his management and direction of the Area IV facility and staff. The entire staff was confident, upbeat and professional in the performance of their duties. They were well trained and worked well together as a team. It was evident that a great deal of teamwork and dedication had been invested in the Area IV operation, and from their stellar performance, it has paid off.

- a. **MET:** Objectives 1, 2, 3, 4, and 10
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

1.8 State Police Access Control Points/Traffic Control Points

State Police Troop E worked extremely well together. The Troop E supervisor supported all troopers participating in the exercise and regularly visited the EOC area to receive updates and add support to the troopers working the exercise. Great leadership was exhibited at Troop E and all troopers worked extremely well together as a team.

- a. **MET:** Objectives 4, 5, 14, and 17
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 38-97-05-A-08

Description: There was no precautionary briefing prepared for any female troopers that may have assisted with emergency worker duties. (Objective 5) (NUREG-0654, K.3.b, K.4)

Corrective Action Demonstrated: New procedures and forms have been developed for female troopers. Precautionary briefing was not demonstrated other than discussion on the new procedures to handle female troopers that may assist in emergency worker duties. The form that is used is called the Declaration of Pregnancy signature form which is for female troopers to sign.

- f. **PRIOR ARCAs - UNRESOLVED:** None

1.9 CONNECTICUT DEPARTMENT OF TRANSPORTATION (DOT) – NORWICH

Traffic and Access Control Point (TCP/ACP) personnel located at the CT-DOT maintenance garage in Norwich were very knowledgeable. Briefing of staff on radiological protection was very accurate and responses to questions posed to Emergency Workers concerning dosimetry readings and turn-back values was outstanding.

- a. **MET:** Objectives 4, 5, 14, and 17
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None

- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

1.10 State Transportation Staging Area (TSA)

The State Transportation Staging Area staff are very responsive and well trained. Emergency drivers were prepared for their assignments rapidly and efficiently. The facility is ideal for processing large numbers of vehicles.

- a. **MET:** Objectives 1,2,3, 4, and 5
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 14

Issue No.: 38-00-14-A-04

Description: KI was not issued with dosimetry; therefore, if KI is recommended after the emergency driver leaves the TSA, it could not be taken until the KI was issued. (Objective 14) (NUREG-0654, J.10.e)

Recommendation: One option would be to change procedure to include issuance of KI to drivers going into the 10 mile EPZ.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2. RISK JURISDICTIONS

2.1 East Lyme EOC

A monitor was used for projecting plant schematics, controlled by a PC, in the office of the Emergency Management Director (EMD). The EMD simulated activation of the siren at the actual location of control panels in the 911-dispatch center downstairs.

- a. **MET:** Objective 1, 2, 3, 4, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 5

Issue No.: 38-00-05-A-05

Description: The Fire Chief at the East Lyme EOC was not aware of the difference between the low range (0-5R) and high range (0-200R) dosimeters. He thought he had one DRD as backup. (Objective 5) (NUREG-0654, K.3, K.4)

Recommendation: All emergency workers with assignments in the 10-mile EPZ should be trained in appropriate dosimetry procedures as indicated in the plan (East Lyme – Local Community Procedure; Attachment 3: Local EPZ Towns Training Guide, LCP-2.0, Rev.. 12/99, P. 8 of 10). The Radiological Officer in briefing workers prior to issuing dosimetry should also reemphasize that the high range dosimeter is for reading exposures beyond the scale of the low range dosimeter, such as in a life threatening event which may result in dosage up to 25R.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.2 Hamlet of Fishers Island, NY, EOC

Staff members at the Fishers Island EOC worked very well together and conducted themselves in a professional manner. Emergency Operations at the EOC were enhanced by new maps showing ERPAs, an updated Emergency Alert System Manual and a new Emergency Action Level Book. The new laminated ERPA Maps (orange and yellow) could be affixed to the magnetic board to reflect the PAR from the Connecticut State EOC. The updated EAS Manual reconfigured and more clearly defined the zones in the

10-mile Emergency Planning Zone. Fishers Island is now a separate zone (Zone F). The new EAL book provided by the Utility tells Emergency Management Staff how Emergency Classification Levels (ECL) were determined.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.3 City of Groton EOC

The City of Groton has a complex governmental relationship with the Town of Groton. Power and water for both entities is provided and controlled by the city. Schools are under the jurisdiction of the town. Despite these complexities the town and city leaders and managers were cooperative as a team to accomplish their objectives. Communication was active and open. Respect and professionalism were practiced at all times.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.4 Town of Groton EOC

The efficient and proactive manner in which the school children of the Town of Groton were protected was excellent. Busses were dispatched to standby at the schools early in the emergency, which allowed efficient return of students to their homes when the Governor's State of Emergency was announced. This early action assured that students would be in the care of their parents during the town evacuation which soon followed.

Also, the maps and displays posted in the EOC were clear, well-labeled and comprehensive for the type of emergency at hand.

- a. **MET:** Objectives 1, 2, 3, 4, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 5

Issue No.: 38-00-05-A-06

Description: The CDV-700 survey instrument used to check personnel entering the EOC exhibited a calibration/inspection sticker of December 1997, which is not within the required 12-month interval for instruments used for personnel monitoring purposes. (Objective 5) (NUREG-0654, H.7, H.10, H.11, K.5.a)

Recommendation: Assure that all monitoring/survey instruments used for personnel monitoring have been calibrated within the past 12 months.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 38-97-15-A-10

Description: The EOC's Human Service Group had a list of 33 special needs persons. On exercise day the group was given a bundle of mail-in cards which may reflect additions and deletions to the EOC special needs list. The Human Services Group representative made an estimate that 55 special needs persons actually live in the Groton Town area. The EOC's special needs list will not be accurate until the cards are analyzed and additions or deletions are made on the EOC list. (Objective 15) (NUREG-0654, J.10.c, d, e)

Corrective Action Demonstrated: The EOC's special needs list was updated and is current (03/14/2000).

- f. **PRIOR ARCAs - UNRESOLVED:** None

2.5 Ledyard EOC

The excellent demonstration of Direction and Control of the varied EOC activities was a result of coordinated teamwork shared by the Town of Ledyard Emergency Management Director (EMD) and the Ledyard Mayor. The EMD has extensive emergency experience and has developed a working relationship with the Mayor and all EOC Staff that ensures that their respective EOC responsibilities are accomplished. By closely coordinating all available information, the EMD and Mayor quickly made all decisions. The Emergency Director assisted the staff with problems, quickly made decisions, provided leadership and individual instructions to each staff member as needed.

All EOC staff demonstrated exceptional knowledge of their respective positions and the necessary coordination to accomplish their total responsibilities as a team.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, and 17
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.6 Lyme EOC

The Lyme EOC staff demonstrated many strengths. EOC staff was very well trained, and immediately reported to their positions. The First Selectman and Emergency Management Director were well prepared and very familiar with the plan. They both displayed great leadership qualities by holding frequent meetings, answering questions from staff, and directing the emergency operation. The EM Director demonstrated the ability to perform many tasks and still have control of the EOC.

EOC staff, especially the Special Needs Coordinator, did an exceptional job tracking the needs of the citizens of Lyme. The SNC was prepared to evacuate and shelter citizens and knew exactly what the needs would be for that day.

The facility was located in the basement of the Lyme Fire Department. There was plenty of space to support the personnel on duty and additional space in the Fire House for staff if necessary.

The status boards, maps, and other displays were exceptional and were updated frequently and displayed for all EOC staff. All staff in the EOC were cross-trained to

perform other duties should the need arise. It was clear that Lyme EOC staff knew the plan, their individual responsibilities, and were eager to do a great job.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.7 Montville EOC

During the discussion concerning what to do with the school children the Superintendent suggested using the community television station as a conduit to convey information to parents. The Superintendent has the capability to actually type in the message at his office and have it displayed on the station.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.8 City of New London EOC

The City of New London City Manager, Civil Preparedness Director, and staff members of the Emergency Operations Center were knowledgeable, enthusiastic, and professional in the performance of their duties during the March 15, 2000 REP Exercise. The cooperative spirit was especially noticeable. Members were helping each other, anticipating problem areas and assisting each other in completion of duties.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, 17, and 30
- b. **DEFICIENCY:** None

- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.9 Old Lyme EOC

The EO staff was well trained and exhibited considerable knowledge of their roles and responsibilities during the drill. All essential personnel that staffed the EOC were volunteers who took vacation time from their full-time jobs to participate in the drill. The volunteers represented public and government sectors (i.e. local fire department, local constable, selectman, private citizen). Their dedication to assisting in maintaining the public health and safety is commendable.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 15, 16, and 17
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** Objective 30

Issue No.: 38-00-30-A-07

Description: The shift change required by the extent-of-play was not adequately demonstrated at Old Lyme because only the CEO position was changed during the drill. All other positions were changed by rotating personnel who were already participating in different positions at the EOC (i.e. communication officer, status board recorder). (Objective 30) (NUREG-0654, A.4)

Recommendation: Perform an adequate demonstration of a shift change at a future exercise.

Schedule of Corrective Actions: Demonstrate at next scheduled exercise.

- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.10 Waterford EOC

Direction and control by the Emergency Management Director and the First Selectman enabled the Waterford Emergency Operation Center (EOC) staff to accomplish their emergency response functions. All of the EOC staff took their responsibilities seriously and acted in a professional manner.

- a. **MET:** Objectives 1, 2, 3, 4, 5, 10, 14, 15, 16, 17, 30, and 31
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.11 Schools/Bus Evacuation - City of New London and Waterford

- a. **MET:** Objective 16
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

2.12 Special Populations - Nursing Homes

- a. **MET:** 15
- b. **DEFICIENCY:** None
- c. **AREAS REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ARCAs - RESOLVED:** None
- f. **PRIOR ARCAs - UNRESOLVED:** None

3. SUPPORT JURISDICTIONS

3.1 Norwich EOC

The Norwich EOC Staff demonstrated knowledge of their emergency assignment and knowledge of their duties concerning the RERP plan. The Assistant City Manager was in charge. He conducted status briefings to the EOC staff, as well as obtaining back briefings as to the task status of each staff member. EOC Staff members utilized their position checklists. The EOC staff was able to communicate and direct personnel at the Reception Center. Norwich EOC deployed their mobile EOC which aided the communications capability of the EOC and Reception Center.

- a. **MET: Objectives 1, 2, 3, and 4**
- b. **DEFICIENCY: None**
- c. **AREAS REQUIRING CORRECTIVE ACTION: None**
- d. **NOT DEMONSTRATED: None**
- e. **PRIOR ARCAs - RESOLVED: None**
- f. **PRIOR ARCAs - UNRESOLVED: None**

3.2 Norwich Congregate Care Facilities

The City of Norwich demonstrated that they are ready to provide adequate and appropriate congregate care facilities to support the 8800 projected evacuee population from the assigned sector Millstone Emergency Planning Zone. Thirteen schools were visited and every facility was extremely clean and had appropriate amenities to be able to support the evacuees.

- a. **MET: Objective 19**
- b. **DEFICIENCY: None**
- c. **AREAS REQUIRING CORRECTIVE ACTION: None**
- d. **NOT DEMONSTRATED: None**
- e. **PRIOR ARCAs - RESOLVED: None**
- f. **PRIOR ARCAs - UNRESOLVED: None**

3.3 Norwich Host Community Reception Center

- a. MET: None – To be conducted July 2000**
- b. DEFICIENCY: None**
- c. AREAS REQUIRING CORRECTIVE ACTION: None**
- d. NOT DEMONSTRATED: Objectives 1, 2, 3, 4, 5, 18, and 22**
- e. PRIOR ARCAs - RESOLVED: None**
- f. PRIOR ARCAs - UNRESOLVED: None**

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations which were used in this report.

ACP	Access Control Point
AMA	American Medical Association
ANI	American Nuclear Insurers
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
CCC	Congregate Care Center
CD-V	Civil Defense - Victoreen
CFR	Code of Federal Regulations
CPM	Counts Per Minute
DEP	Department of Environmental Protection
DEP/DOR	Department of Environmental Protection/Division of Radiation
DHHS	U.S. Department of Health and Human Services
DHS/OEMS	Department of Health Services/Office of Emergency Medical Services
DOC	U.S. Department of Commerce
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DRD	Direct Reading Dosimeter
EAL	Emergency Action Level
EAS	Emergency Alert System
ECL	Emergency Classification Level
EEM	Exercise Evaluation Methodology
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
ETA	Estimated Time of Arrival
ETE	Evacuation Time Estimate
EWMS	Emergency Worker Monitoring and Decontamination Station
FAA	Federal Aviation Agency
FCC	Federal Communications Commission
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency

FR	Federal Register
FTC	Field Team Coordinator
ft/min	feet per minute
ft ³ /min	cubic feet per minute
GE	General Emergency
GM	Guidance Memorandum
IP	Implementing Procedure
JMC	Joint Media Center
JPIC	Joint Public Information Center
KI	Potassium Iodide
mR	milliroentgen
mR/h	milliroentgen per hour
NOAA	National Oceanic and Atmospheric Administration
NOUE	Notification of Unusual Event
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980</i>
NWS	National Weather Service
OEM	Office of Emergency Management
ORO	Offsite Response Organization
PAD	Protective Action Decision
PAG	Protective Action Guide
PAO	Public Affairs Official
PAR	Protective Action Recommendation
PIADC	Plum Island Animal Disease Center
PIO	Public Information Officer
POR	Point Of Review
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RC	Reception Center
REA	Radioactive Emergency Area
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan

R/h	Roentgen(s) per hour
RO	Radiological Officer
SAE	Site Area Emergency
SEOC	State Emergency Operations Center
TCP	Traffic Control Point
TDD	Telecommunications Device for the Deaf
TL	Team Leader
TLD	Thermoluminescent Dosimeter
UHF	Ultra High Frequency
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
VHF	Very High Frequency
WP	Warning Point

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Millstone Nuclear Power Station Plume Exposure Pathway exercise on March 15, 2000. Evaluator Team Leaders are indicated by the letters "(TL)" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

FEMA RI	-	Federal Emergency Management Agency – Region I
FEMA RII	-	Federal Emergency Management Agency – Region II
ANL	-	Argonne National Laboratory
EPA	-	U.S. Environmental Protection Agency
FDA	-	U.S. Food and Drug Administration
INEEL	-	Idaho National Engineering and Environmental Laboratory
KLT	-	K.L. Travis & Associates, Inc.
NRC	-	U.S. Nuclear Regulatory Commission
USDA	-	U.S. Department of Agriculture

EVALUATION SITE	EVALUATOR	ORGANIZATION
GENERAL OBSERVATIONS	D. McElhinney D. Bell	FEMA RI FEMA RI
STATE OF CONNECTICUT		
State Emergency Operations Center	B. Swartz (TL) J. Gallagher B. Rospenda D. Newsom	FEMA RI FEMA RI ANL ANL
Department of Environmental Protection	M. Geer J. Keller	KLT INEEL
Emergency Operations Facility	G. Gibeault	INEEL
Field Monitoring Teams	R. Bernacki J. Cherniak	FDA EPA
Joint Media Center	M. Goetz B. Rospenda	FEMA RI ANL
Department of Health	W. Gaudet	FEMA RI

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
OEM Area IV, Colchester	W. Anderson	FEMA RI
State Police Access Control/ Traffic Control Points	R. Quinlan	FEMA RI
State Department of Transportation - Norwich	M. Brazel	FEMA RI
State Transportation Staging Area	G. Jacobson	ANL
RISK JURISDICTIONS		
East Lyme	A. Teotia	ANL
Hamlet of Fishers Island, NY	R. Acerno B. Hasemann	FEMA RII FEMA RII
City of Groton	J. Austin M. Hilliard	ANL FEMA RI
Town of Groton	L. Slagle	ANL
Ledyard	R. Smith B. Waters	ANL FEMA RI
Lyme	R. Poole (TL) D. Sweeney	FEMA RI FEMA RI
Montville	B. Young	ANL
City of New London	H. Harrison R. Bailey	ANL FEMA RI
Old Lyme	L. Thomas	USDA
Waterford	A. Lookabaugh N. Andrews	ANL FEMA RI
Schools/Bus Evacuation (Demonstrated March 16, 2000)	M. Brazel	FEMA RI

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Special Populations, Nursing Homes (Demonstrated March 16, 2000)	R. Quinlan	FEMA RI
SUPPORT JURISDICTIONS (Demonstrated Out-of-Sequence)		
Norwich EOC (Demonstrated March 4, 2000)	M. Gallagher	FEMA RI
Norwich Congregate Care Facilities (Demonstrated February 22, 2000)	B. Swartz J. Yunker	FEMA RI FEMA RI

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise objectives which were scheduled for demonstration in the Millstone Nuclear Power Station Plume Exposure Pathway exercise on March 15, 2000, and the extent-of-play agreement approved by FEMA Region I on January 24 and February 25, 2000.

The exercise objectives, contained in FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

Because the exercise objectives are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an extent-of-play agreement is prepared by the State and approved by FEMA to provide evaluators with guidance on expected actual demonstration of the objectives.

A. Exercise Objectives

Listed below are the specific radiological emergency preparedness objectives scheduled for demonstration during this exercise.

OBJECTIVE 1: MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

OBJECTIVE 2: FACILITIES - EQUIPMENT, DISPLAYS, AND WORK ENVIRONMENT

Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.

OBJECTIVE 3: DIRECTION AND CONTROL

Demonstrate the capability to direct and control emergency operations.

OBJECTIVE 4: COMMUNICATIONS

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

OBJECTIVE 5: EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

OBJECTIVE 7: PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10^{-7} (0.0000001) microcuries per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to make timely and appropriate protective action decisions.

OBJECTIVE 10: ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

OBJECTIVE 11: PUBLIC INSTRUCTIONS AND EMERGENCY INFORMATION

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

OBJECTIVE 12: EMERGENCY INFORMATION - MEDIA

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

OBJECTIVE 13: EMERGENCY INFORMATION - RUMOR CONTROL

Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

OBJECTIVE 14: IMPLEMENTATION OF PROTECTIVE ACTIONS - USE OF POTASSIUM IODIDE FOR EMERGENCY WORKERS, INSTITUTIONALIZED INDIVIDUALS, AND THE GENERAL PUBLIC

Demonstrate the capability and resources to implement potassium iodide protective actions for emergency workers, institutionalized individuals, and, if the State plan specifies, the general public.

OBJECTIVE 15: IMPLEMENTATION OF PROTECTIVE ACTIONS - SPECIAL POPULATIONS

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

OBJECTIVE 16: IMPLEMENTATION OF PROTECTIVE ACTIONS - SCHOOLS

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency planning zone.

OBJECTIVE 17: TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

OBJECTIVE 18: RECEPTION CENTER - MONITORING, DECONTAMINATION AND REGISTRATION

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination and registration of evacuees.

OBJECTIVE 19: CONGREGATE CARE

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

OBJECTIVE 22: EMERGENCY WORKERS, EQUIPMENT, AND VEHICLES - MONITORING AND DECONTAMINATION

Demonstrate the adequacy of procedures for the monitoring and decontamination of emergency workers, equipment, and vehicles.

OBJECTIVE 23: SUPPLEMENTARY ASSISTANCE (FEDERAL/OTHER)

Demonstrate the capability to identify the need for external assistance and to request such assistance from Federal or other support organizations.

OBJECTIVE 30: CONTINUOUS, 24-HOUR STAFFING

Demonstrate the capability to maintain staffing on a continuous, 24-hour basis through an actual shift change.

OBJECTIVE 31: OFFSITE SUPPORT FOR THE EVACUATION OF ONSITE PERSONNEL

Demonstrate the capability to provide offsite support for the evacuation of onsite personnel.

B. Extent-of-Play Agreement

The extent-of-play agreement on the following pages was submitted by the State of Connecticut, and was approved by FEMA Region I on January 24 and February 25, 2000, in preparation for the Millstone Nuclear Power Station Plume Exposure Pathway exercise on March 15, 2000. The extent-of-play agreement includes any significant modification or change in the level of demonstration of each exercise objective listed in Subsection A of this appendix.

Extent of Play

*-Millstone Station FEMA Evaluated Plume Pathway Exercise-
March 15, 2000*

(Single Page) Rev. February 25, 2000

Objective 1. MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate, and staff, emergency facilities for emergency operations.

Extent of Play - General

Notification of State, Local and Utility officials will be initiated through use of the emergency notification radio-pager system. State and local officials will then mobilize appropriate emergency personnel.

Activation of State and local emergency planning zone (EPZ) community EOCs will be driven by the exercise scenario Emergency Classification Level (ECL). The State radiological emergency Response Plan (RERP) requires activation at the Site Area Emergency (SAE) classification. However, the decision to activate may occur at an earlier ECL.

Extent of Play - Specific

1. The following locations and agencies will be pre-positioned and/or demonstrated off-line from the exercise scenario:

- Host Community Reception Center and Congregate Care Demonstrations: Off-line at Norwich on March 4, 2000. (Congregate Care Facilities walk-through TBD.) (Norwich demonstrations will have a separate Extent-of-Play.) (Objectives 18 & 19.) (1, 2, 3, 4 & 5 for the Norwich EOC.)
- State Department of Environmental Protection (DEP) Field Teams will be prestaged at State Police Barracks E in Montville in conjunction with the exercise.
- School District Demonstrations - Off-line during the week of 3/13/00 at New London and Waterford. (See Objective 16.)
- A selected sample of Nursing Care Facilities will be surveyed off-line during the week of 3/13/00. (See Objective 15.)
- The Transportation Staging Area at Rocky Hill will demonstrate one vehicle and driver simulating dispatch procedures for emergency transportation for EPZ towns.

2. A second shift roster will be available for inspection.

Extent of Play

*-Millstone Station FEMA Evaluated Plume Pathway Exercise-
March 15, 2000*

Rev. January 24, 2000

Objective 2.

FACILITIES - EQUIPMENT DISPLAYS AND WORK ENVIRONMENT

Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.

Extent of Play - General

All facilities should be equipped as in an actual emergency and all activities should be carried out as specified in the plan.

Extent of Play - Specific

1. This objective will be demonstrated by State and local EOCs to include : plans, procedures, radiological emergency status board/s, classification schemes and communications equipment.
 2. The facility activation will be appropriate for a one-shift operation. A source of backup power and maintenance logs, if available, will be discussed.
-

Extent of Play

*-Millstone Station FEMA Evaluated Plume Pathway Exercise-
March 15, 2000*

Rev. January 24, 2000

Objective 3.

DIRECTION AND CONTROL

Demonstrate the capability to direct and control emergency operations.

Extent of Play - General

Direction and Control activities will be demonstrated by participating organizations in accordance with the Radiological Emergency Response Plan (RERP).

Extent of Play - Specific

(No site-specific modifications.)

Extent of Play

*-Millstone Station FEMA Evaluated Plume Pathway Exercise-
March 15, 2000*

Rev. January 24, 2000

Objective 4.

COMMUNICATIONS

Demonstrate the ability to communicate with all appropriate emergency personnel at facilities and in the field.

Extent of Play - General

Primary and backup communications equipment and procedures for all participating facilities will be demonstrated by the transmission and receipt of exercise messages. All demonstrations will be accomplished by the use of communications equipment and procedures to support the implementation of emergency response actions. All activities associated with the management of communications capabilities will be demonstrated.

Extent of Play - Specific

1. Communications from the State to the EPZ communities will be relayed through the State Office of Emergency Management (OEM) Area Coordinator.
2. Direct communications between the State and the utility will be established between the site emergency operations facility (EOF) and the State EOC (Department of Environmental Protection, Division of Radiation and through the Northeast Utilities Nuclear News Group.). Northeast Utilities dispatches a company officer to act as liaison to the State EOC in Hartford.
3. The Area 4 Office will establish communications with the Town of Norwich EOC to satisfy requirements for the Host Community demonstration of Objective 4 to complete the off-line Host Community Exercise conducted on 3/4/00.

Extent of Play

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Objective 5. EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the capability to continuously monitor and control radiation exposure to emergency personnel.

Extent of Play - General

Direct-reading dosimeters and non-self reading TLD or film badges will be distributed to a representative number of emergency workers who are required to have them. The full-scale ranges of the direct-reading dosimeters, the most recent evidence of their inspection for leakage and the most recent evidence of when the non-self reading dosimeters were/or need to be replaced will be recorded by the evaluator.

Each emergency worker assigned dosimetry will demonstrate the basic knowledge of radiation exposure limits and turn-back exposure rate values through an interview process. Procedures to monitor and record dosimeter readings and to manage radiological exposure control will be demonstrated as they would be in an actual emergency. Evaluators will observe emergency workers to see if they take periodic dosimeter readings and record such readings on the appropriate exposure record chart or card. All activities will be carried out as specified in the appropriate plan except as modified herein.

Extent of Play - Specific

1. Each community has been provided with emergency worker dosimetry packets. These Packets include: a thermoluminescent dosimeter (TLD), and two self-reading dosimeters (SRD) in the 0R (Roentgen) to 5R and the 0R to 200R ranges.
2. One dosimetry packet will be issued to each emergency worker who is leaving any EOC. In addition, in each EOC one staff member will be issued one dosimetry packet to represent those issued to all appropriate personnel. The EOC worker issued a packet will demonstrate dosimetry turn-in and necessary paperwork. Evaluators will be shown a stockpile of dosimetry packages that will represent a sufficient supply for all emergency workers required to wear them.
3. Emergency worker exposure control training, including a basic knowledge of exposure control procedures (turn-back values, call-in values and periodic monitoring), may be demonstrated through evaluator interviews.
4. Emergency workers will discuss procedures to be followed in the event that exposure limits or turn-back values are achieved. Controller inject will be used to prompt demonstration of these procedures.

Areas Requiring Corrective Action (ARCA)

38-95-05-A-02:	UNRESOLVED - Range of Reading not posted on survey instrument.
38-95-05-A-03:	UNRESOLVED - Bus drivers were not issued dosimetry.
38-97-05-A-08:	No precautionary briefing given to female workers (e.g. pregnancy).
38-97-05-A-09:	Electrical leakage dates not available for any DRD.

Extent of Play

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Objective 6. FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING
--

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

Extent of Play - General

Teams using provided equipment and procedures will demonstrate field radiation measurements in accordance with the Radiological Emergency Response Plan (RERP). Field monitoring teams will be dispatched from State Police Troop E (Montville) barracks.

Extent of Play - Specific

1. Demonstration of field team activities will include operational checks and verification of calibration in accordance with the Objective #5 extent of play agreement.
 2. DEP will deploy 2, two-person field teams who will determine plume characteristics. The extent of monitoring team deployment to be demonstrated will depend on accessibility of the areas.
 3. The number of pre-selected reference points demonstrated during the exercise in a given area will be a function of wind speed and direction, distance from the nuclear power facility, topography, population density and accessibility by road. Each field team will be dispatched to at least two sampling points where each team will take at least two radiation measurements (air and radiation sample). Field teams will not be required to move to a low background area outside of the plume to take measurements on the second set of air samples.
 4. DEP field monitoring teams will demonstrate plume monitoring for skin exposures, particulates and iodine per the State Radiological Emergency Response Plan (RERP). Field teams will be pre-staged at Connecticut State Police Troop E barracks in Montville to obtain equipment and await instructions.
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Extent of Play

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Objective 7.

PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

Extent of Play - General

Activities associated with plume location and development of dose projections through the use of models, data from the field, data supplied by the utility and the development of appropriate protective action recommendations will be demonstrated in accordance with the State Radiological Emergency Response Plan (RERP).

Extent of Play - Specific

1. DEP staff will perform dose projections at the State EOC with site-specific input from Northeast Utilities (NU). The NU staff at the EOF will perform parallel dose calculations for comparison and discussion with State staff. The DEP dose calculation staff will also receive frequently updated meteorological and radiological data via the NU radiological staff.
2. Dose calculations will be demonstrated using dose assessment model computer codes.

Areas Requiring Corrective Action (ARCA)

- 38-97-07-A-01: DEP did not estimate projected dose on projected time of release.
38-97-07-A-02: ADAM dose projection did not estimate TEDE.
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Extent of Play

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Objective 8. FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING
--

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 1×10^{-7} $\mu\text{Ci}/\text{cm}^3$ in the presence of Noble gases. Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioactive particulates.

Extent of Play - General

Activities associated with the monitoring of simulated airborne radionuclide and particulate activity will be demonstrated. The activities involve sampling equipment, procedures, vehicles and transmission of data. Sample collection will be in accordance with procedures.

Extent of Play - Specific

1. Each DEP field monitoring team will obtain two radioiodine and two particulate sample where the simulated exposure rate of at least 30 mR/hr, as indicated by controller inject, represents the plume center line. Transportation to the State Public Health Laboratory will not be demonstrated for the Plume Phase.). Field teams will not be required to move to a low background area outside of the plume to take measurements on the second set of air samples.
2. Air sample cartridges used during the exercise have been specifically designated for drill or exercise use only. These cartridges may be used *more than once* during the exercise. The inventory of air sample cartridges to be used in an actual emergency is located at the DEP in Hartford, at the Millstone station and at the Montville State Police barracks. The actual Inventory list will be made available.

Extent of Play
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Objective 9.	PLUME PROTECTIVE ACTION DECISION MAKING
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Demonstrate the ability to make timely and appropriate protective action decisions (PAD).

Extent of Play - General

All decision making activities relating to making PADs should be made by personnel at various sites as they would be performed in an actual emergency.

Extent of Play - Specific

1. Initial plume protective action decisions will be based on the exercise scenario emergency classification level and State posture codes as specified in the State Radiological Emergency Response Plan (RERP). The RERP provides for recommended actions for State and local officials that may be used during rapidly developing events. Specific decision making criteria, including the influence of extenuating factors such as environmental conditions, plant conditions and established radiological thresholds, are provided in the RERP for both State and local officials. Input such as utility protective action recommendations will also be used in decision making.
2. When the EOF is activated, its staff will forward utility protective actions to the State EOC.
3. The State EOC, as specified in the RERP, will direct and coordinate protective action implementation through State and local agencies.

Extent of Play

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Objective 10.

ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone (EPZ) and disseminate instructional messages to the public on the basis of decisions by appropriate State and local officials.

Extent of Play - General

Demonstrate all alert and notification actions for each sequence leading to the forwarding of emergency messages to radio and television stations as they would be performed in an actual emergency except as modified herein.

Extent of Play - Specific

1. Activation of the public alerting systems (sirens) will be simulated.
 2. Alert and notification activities leading to Emergency Alerting System (EAS) simulation and the release of EAS messages will be demonstrated. Local officials would then simulate activation of their public alerting system (PAS) to precede an instructional message release. Activation of the EAS will occur at State OEM only. However, actual transmission of EAS messages to the public will be simulated. The State RERP does not permit activation of EAS by local CEOs after the Governor declares a state of emergency.
 3. Demonstration of all EAS activities will include: selection of the EAS message to be broadcast, arranging communications with the appropriate EAS station for message transmission and simulated narration of the selected message.
 4. Additional information and amplified instructions, in the form of press releases and news advisories, will supplement EAS messages.
 5. The "15 minute clock" begins when the Governor, or his representative, approves the EAS message with his signature.
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Extent of Play

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Objective 11.

PUBLIC INSTRUCTIONS AND EMERGENCY COMMUNICATIONS

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

Extent of Play - General

Activities associated with the development of clear, concise public information and instructional messages to implement protective actions will be demonstrated. These will be demonstrated in conjunction with preparation of instructional message releases and will include coordination with all appropriate agencies and jurisdictions.

The capability to coordinate message release with appropriate agencies and organizations will be demonstrated. These activities will generally be demonstrated concurrent with each instructional message release.

Extent of Play - Specific

1. Protective action implementation will be initiated and coordinated by the State OEM through transmission to its Area office and subsequent relaying to the affected local governments. The RERP does not authorize local activation of EAS during a declared state of emergency. Local governments *may* chose to develop and simulate release of their own news advisories in their respective towns.
2. Millstone EAS messages used in the exercise have been adapted to conform with new Zone Sector identifiers.

Areas Requiring Corrective Action (ARCA)

38-97-11-A-03: The EAS messages and news releases had some discrepancies.

Extent of Play

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Objective 12. EMERGENCY INFORMATION - MEDIA
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Demonstrate the capability to coordinate the development and dissemination of clear, accurate and timely information to the news media.

Extent of Play - General

Activities involved in establishing a primary information facility for coordinating media information will be demonstrated. These activities will include media briefings and the generation of press releases. Demonstration of in-person or telephone interaction with media representatives may be shown by the use of actual media representatives or players simulating their roles during the briefings.

Extent of Play - Specific

1. Activation of a joint media center at the State Armory will be demonstrated. Representatives from the Governor's press office and the utility public information group will be present. This activity will include: distribution of media kits, detailed discussion of protective actions, site remedial actions, instructional messages and press release copy distribution, use of plant equipment graphic displays during briefings and internal coordination of media information prior to its release.

Areas Requiring Corrective Action (ARCA)

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|----------------|---|
| 38-97-12-A-04: | Terminology needs to be clarified, visual aids present, and better coordination needs to be demonstrated between participating organizations to anticipate media questions. |
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Extent of Play

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Objective 13.

EMERGENCY INFORMATION - RUMOR CONTROL

Demonstrate the capability to establish and operate rumor control activities in a coordinated and timely manner.

Extent of Play - General

All rumor control activities related to individual calls to the rumor control staff will be conducted as in an actual emergency. All activities associated with the monitoring of broadcast media should be simulated by response to controller injects concerning media coverage of the emergency. At least one message should contain a false or misleading rumor for which measures should be taken. Rumor calls should be monitored to identify "trends". "Trend" information will be mentioned in subsequent news releases. Any Equipment that would be used in the monitoring of news coverage in an actual emergency should be on hand and operable. When actual EAS broadcasts are not made, the equipment to be used for EAS will be tested for operability and staff will demonstrate the capability to monitor area EAS stations.

Extent of Play - Specific

1. A control cell will initiate rumors into the system at the State and utility level. The control cell will demonstrate this objective by the insertion of at least six rumors per hour to each rumor control staff person (excluding the rumor control supervisor) beginning *after* the Governor's state of emergency declaration. There will be four rumor control staff members and one supervisor.
2. Demonstrated rumor control activities will include securing current information, receiving updates and relaying information to callers.
3. Since actual EAS broadcasts will not be made, monitoring of the EAS stations and EAS operability testing will be demonstrated/simulated in the EAS room (operability testing) and the State Joint Media Center (monitoring).

Extent of Play

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Objective 14.	IMPLEMENTATION OF PROTECTIVE ACTIONS - KI FOR EMERGENCY WORKERS, INSTITUTIONALIZED INDIVIDUALS AND THE GENERAL PUBLIC
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Demonstrate the capability and resources to implement potassium iodide (KI) policy protective actions for emergency workers, institutionalized individuals and, if the State plan specifies, the general public.

Extent of Play - General

Under this criterion, the transportation and distribution of KI may be simulated by physical distribution of a substitute item (e.g. empty pill bottles, candy or slips of paper) to emergency workers. Available stocks of KI should be within the expiration indicated on KI containers. As an alternative, a letter from the Department of Health and Human Services/Food and Drug Administration should be available that documents a formal extension of the KI expiration date.

Extent of Play - Specific

1. The State Radiological Emergency Response Plan (RERP) discusses the issue of potassium iodide (KI) policy and implementation in Section 10.3, of the basis document (Volume 1).
2. The State of Connecticut KI policy provides for the use of KI by State emergency workers only. The State policy *does not* provide for issuance of KI to the general public.
3. EPZ communities *may use* KI in accordance with their plans and procedures. The only EPZ community which stockpiles and issues KI to its emergency workers is the site town of Waterford.
4. The use of KI by people who are institutionalized *has not* been recommended by the Connecticut Public Health Department.
5. State emergency workers with assigned duties inside the plume exposure EPZ take one tablet of KI when responding to an incident classification GENERAL EMERGENCY Posture Code Alpha, unless they are otherwise instructed.
6. The State Public Health Commissioner makes the decision regarding the use of KI, based on the recommendation made by the State Department of Environmental Protection, Division of Radiation.

Extent of Play

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Objective 15.

IMPLEMENTATION OF PROTECTIVE ACTIONS - SPECIAL POPULATIONS

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

Extent of Play - General

Implementation activities for special populations will be demonstrated by appropriate staff as in an actual emergency. All activities associated with identifying transportation resources and contacting transportation providers to determine availability of such resources will be completed as in an actual emergency. Coordination with special populations and institutions requiring transportation resources will be demonstrated as in an actual emergency.

Extent of Play - Specific

1. State OEM will demonstrate contacting the Niantic Correctional Institution. The State Public Health Department will simulate contacting nursing facilities within the plume EPZ.
2. Communities will demonstrate this objective by table-top discussion to include: identification of special needs populations, transportation requirements and the coordination of activities with the State OEM to obtain additional transportation resources as necessary.
3. During the week of March 13, 2000, three pre-designated specialized nursing care facilities will be surveyed to discuss their emergency procedures.

Area Requiring Corrective Action (ARCA)

- 38-97-15-A-10: Groton Town's "special needs" cards need to be analyzed and appropriate additions or deletions made.
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Extent of Play

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Objective 16. IMPLEMENTATION OF PROTECTIVE ACTIONS - SCHOOLS

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency planning zone (EPZ).

Extent of Play - General

To complete the six year cycle, the following two selected communities will demonstrate and discuss the ability and resources necessary to implement protective actions for school children:

- New London
- Waterford

This is the final third increment of the EPZ towns required to be evaluated for school procedures.

Extent of Play - Specific

1. Appropriate activities associated with the demonstration of school protective actions will be discussed/simulated in those EPZ communities affected by the scenario plume on March 15, 2000.
2. During the week of March 13, 2000, the towns of New London and Waterford will conduct a discussion of their plans with the respective school superintendents and one designated school principal in each district. One vehicle will be dispatched to the pre-designated Host Communities of Wethersfield (for Waterford) and Windham (for New London).

Areas Requiring Corrective Action (ARCA)

38-95-16-A-07: UNRESOLVED: The State EOC did not pass along information on Groton's early school dismissal to the State Director or public information officer.

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Objective 17.

TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and control access to evacuated and sheltered areas.

Extent of Play - General

Demonstrate the capability to establish and staff traffic and access control points through instructions to field personnel. Unless confronted with a fast-breaking accident or the potential for a core melt sequence, traffic and access control staff will discuss the capability to arrive at designated traffic and access control points in time to perform their functions before the scheduled arrival of evacuation traffic. Traffic control staff will be knowledgeable on traffic control, access control, protective actions, location of reception and congregate care centers and EAS station call numbers. The ability to identify and remove impediments to evacuation will be discussed as necessary.

Extent of Play - Specific

1. Decision making activities at the State and local EOCs to establish initial traffic access and control points will be discussed if in the scenario plume wind. The activation of three traffic control points (sites TBD) will be discussed. Coordination and implementation of Connecticut's traffic management plan is a State Police responsibility. The State police liaison in the State EOC will direct implementation of the plan by the State Police barracks in the affected area. Each barracks assigns troopers or officers to control points within its jurisdiction.
2. Local EOC staff will discuss the establishment of traffic control points within their respective communities.
3. State Police and Department of Transportation (DOT) officials will discuss the process of securing additional resources, such as tow trucks, required to move traffic impediments.
4. Since this is a scenario-driven objective, EPZ municipalities with a full-time paid police force (Groton City, Groton Town, New London and Waterford) will discuss the establishment of traffic and access control points if they are in the exercise scenario plume pathway. All other EPZ communities are covered by the State Police.
5. Barrier materials will be observed by FEMA evaluators after the plume phase. Towns using Resident State Police Officers will arrange for FEMA evaluators to view State DOT barrier materials at the end of the exercise.

Extent of Play

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Objective 23. SUPPLEMENTARY ASSISTANCE (FEDERAL/OTHERS)
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Demonstrate the capability to identify the need for external assistance and to request such assistance from federal and other support organizations.

Extent of Play - General

Once the need for outside organizational support has been established, all activities associated with requests for supplementary assistance will be carried out in accordance with the State plan unless deviations are specified herein.

Extent of Play - Specific

1. Once the need for outside organizational support has been established, responsible State agencies will initiate the request for federal agencies' supplementary assistance.
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Extent of Play

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Objective 30.

CONTINUOUS 24-HOUR STAFFING

Demonstrate the capability to maintain staffing on a continuous, 24-hour basis through an actual shift change.

Extent of Play - General

Demonstrate that at least on complete shift change can be accomplished as it would be in an actual emergency. The shift change should take place no later than at the mid-point of the exercise permitting replacement personnel to demonstrate that they can perform the functions of personnel from the previous shift. The outgoing shift should brief the oncoming shift which assumes all the responsibilities and functions of the emergency operation.

Extent of Play - Specific

1. This objective will be demonstrated at participating State and EPZ town EOCs that have not successfully completed the requirement in an off-line demonstration scheduled during a real-world Y2K 24-hour EOC activation, or other emergency situations. (CT OEM has requested that the State EOC, Area 4 and the Town of Ledyard be given Objective 30 credit for mobilizing for Y2K in December of 1999 and may not need to complete this demonstration.)
2. The turnover/shift change requirement will not exempt the lead position at each EOC.

Extent of Play

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Objective 31.

OFFSITE SUPPORT FOR THE EVACUATION OF ONSITE PERSONNEL

Demonstrate the capability to provide offsite support for the evacuation of onsite personnel.

Extent of Play - General

Demonstrate the capability to assist the licensee (Millstone Station) in the simulated evacuation of onsite personnel from the nuclear power plant. This capability should be accomplished in a way that minimizes the impact of evacuation of onsite personnel on the evacuation of offsite populations.

Extent of Play - Specific

1. This will be a discussion at the Town of Waterford on traffic management.
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APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events -- Exercise Scenario -- which was used as the basis for invoking emergency response actions by OROs in the Millstone Nuclear Power Station Plume Exposure Pathway exercise on March 15, 2000.

This exercise scenario was submitted by the State of Connecticut and approved by FEMA Region I on February 10, 2000.

During the exercise, controllers gave "inject messages", containing scenario events and/or relevant data, to those persons or locations who would normally receive notification of such events. These inject messages were the method used for invoking response actions by offsite response organizations.

SCENARIO SUMMARY

- 0815 Exercise begins. Initial conditions established.
- 0817 Small steam generator tube leak begins. Radiation alarm initiates.
- 0826 Reactor tripped; safety injection actuated; turbine tripped.
- 0828 The Shift Manager should declare an Alert based on a steam generator tube rupture and reactor coolant leak greater than the capacity of one charging pump. Offsite agencies should be notified.
- 0850-
- 0930 The Director of Station Emergency Operations will initiate a simulated site evacuation.
- 0858 Plant Operators initiate a plant cooldown.
- 1010 Main Steam Valve Building "Temperature High" alarm indicated.
- 1028 Main steam break occurs, and minor radiological release begins.
- 1030 A Site Area Emergency should be declared based on primary to secondary leakage greater than technical specification limits and a secondary release to the environment. The State should authorize simulated siren activation and simulated broadcast of EAS message. The Governor will most likely declare a State of Emergency.
- 1235 Reactor Coolant Pump is tripped.

- 1238 Radiological activity rapidly increases. Radiation levels peak at about 6.5 R/hr.
- 1240 A General Emergency should be declared based on loss of three barriers. The Director of Station Emergency Operations will issue the Protective Action Recommendation to the State to evacuate Zones A, B, and E, and to shelter Zones C, D, and F. The State will most likely order the evacuation of some towns, will authorize the simulated activation of sirens, and will simulate the broadcast of another EAS message.
- 1345 Release into the Main Steam Valve Building is terminated, and the release starts to diminish.
- 1430 Exercise will be terminated.

