

Millstone Power Station Exercise – May 17, 2006

Report - Radiological Emergency Preparedness Program

August 17, 2006



**Homeland
Security**

New England Field Office





Homeland Security

Exercise Report

Millstone Power Station

Licensee: nion Nuclear Connecticut Inc.

Exercise Date: May 17, 2006

Report Date: August 17, 2006

**U.S. DEPARTMENT OF HOMELAND SECURITY
OFFICE OF INFRASTRUCTURE PROTECTION**

**CHEMICAL AND NUCLEAR
PREPAREDNESS AND PROTECTION DIVISION**

RADIOLOGICAL EMERGENCY PREPAREDNESS

**NEW ENGLAND FIELD OFFICE
99 HIGH STREET
BOSTON, MASSACHUSETTS 02110**

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I. EXECUTIVE SUMMARY

On May 17, 2006, the Department of Homeland Security, Preparedness Directorate, New England Field Office, Region I, conducted an exercise in the Plume Exposure Pathway emergency planning zone (EPZ) around the Millstone Power Station. The purpose of the exercise 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 September 14-16, 2004, (plume/ingestion exposure pathway). The qualifying emergency preparedness exercise was conducted in 1982.

Department of Homeland Security 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.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. Connecticut received, three, Areas Requiring Corrective Action (ARCA). One of which was a prior ARCA which remains unresolved.

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.

On November 14, 2005, FEMA's responsibilities for radiological emergency planning for fixed nuclear facilities was transferred to the DHS Preparedness Directorate, Office of Infrastructure Protection, Chemical and Nuclear Preparedness & Protection Division – Radiological Emergency Preparedness (CNPPD-REP).

DHS'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. Center for Disease Control
- 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 Department of Homeland Security New England Field Office Radiological Assistance Committee (RAC), which is chaired by DHS Radiological Assistance Committee Chair person.

Formal submission of the RERPs for the Millstone 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.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the DHS New England Field Office, Radiological Assistance Committee Chair person and approved by the DHS Director of Chemical and Nuclear Hazards Branch.

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
- 66 FR 47546, "FEMA Radiological Emergency Preparedness: Alert and Notification," September 12, 2001; and
- 67 FR 20580, "FEMA Radiological Emergency Preparedness: Exercise Evaluation Methodology," September 12, 2001 and amended April 25, 2002.

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/ingestion pathway EPZ, a listing of all participating jurisdictions and functional entities that 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 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 May17, 2006, Plume Exposure Pathway exercise to test the offsite emergency response capabilities in the area surrounding the Millstone Power Station. This section of the exercise report includes a description of the plume pathway EPZ in Connecticut and New York; 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 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, New York. Millstone Station is located on the coast of Connecticut, in the Town of Waterford, and is adjacent to Long Island Sound.

Based on the 2000 census, the total population of the EPZ is 259,088, with the permanent population of those New York portions of the EPZ being approximately 300.

Two parallel Amtrak freight and passenger lines run North and South 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 Power Station Plume/Ingestion Exposure Pathway exercise on May17, 2006.

STATE OF CONNECTICUT

STATE EMERGENCY OPERATIONS CENTER (EOC)

Governor's Office

Connecticut National Guard
Connecticut Office of Emergency Management
Connecticut Department of Public Safety Division of Homeland Security
Connecticut State Police
Connecticut Department of Public Health
Connecticut Department of Mental Retardation
Connecticut Department of Mental Health and Addiction Services
Connecticut Department of Agriculture
Connecticut Department of Consumer Protection
Connecticut Department of Transportation
Connecticut Commission on Deaf and Hearing Impaired
Connecticut Department of Corrections
New York State – Emergency Management Office
Rhode Island Department of Health (Public Affairs Liaison)
Rhode Island Department of Environmental Management (Liaison)
U.S. Nuclear Regulatory Commission
U.S. Coast Guard
Dominion Nuclear Connecticut, Inc.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Connecticut Department of Environmental Protection
Connecticut Office of Emergency Management
Connecticut Department of Environmental Protection,
Division of Radiation
Division of Oil and Chemical
Dominion Nuclear Connecticut, Inc.

EMERGENCY OPERATIONS FACILITY (EOF)

Millstone Power Station Staff
Connecticut Department of Environmental Protection
Division of Radiation

STATE FIELD MONITORING TEAMS

Connecticut Department of Environmental Protection
Division of Radiation
Division of Oil and Chemicals

JOINT MEDIA CENTER

Connecticut Department of Agriculture
Connecticut Department of Public Health
Connecticut Governor's Press Secretary

Connecticut Office of Emergency Management
Connecticut Department of Public Safety Division of Homeland Security
Connecticut State Police
Connecticut Department of Environmental Management
Connecticut Department of Transportation
Dominion Nuclear Connecticut, Inc.

STATE DEPARTMENT OF PUBLIC HEALTH (DPH) COMMAND CENTER

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 Area 3 Office
Connecticut Department of Veteran's Affairs (Protective Services Unit)
Connecticut Department of Corrections (Southfield Transportation Unit)
Volunteer Residents Rocky Hill Veterans Home and Hospital

CONNECTICUT DEPARTMENT OF TRANSPORTATION – NORWICH

State DOT Staff of Norwich

RISK JURISDICTIONS

EAST LYME EOC

East Lyme Emergency Management
Connecticut State Police (Resident Trooper)
East Lyme Police Department
East Lyme Fire Marshal
East Lyme Public School Board of Education
East Lyme Public Works
East Lyme Water Department
Radio Amateur Civil Emergency Services (RACES)

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
Radio Amateur Civil Emergency Services (RACES)
Zoning and Building

TOWN OF GROTON EOC

Town of Groton – Town Manager
Town of Groton – Civil Preparedness Director
Town of Groton - Fire Department
Town of Groton – Police Department
Town of Groton – 911 Dispatch
Groton Public Schools

LEDYARD EOC

Town of Ledyard Mayor
Town of Ledyard Emergency Management Director
Town of Ledyard Police Department
Town of Ledyard Fire Department
Town of Ledyard Public Works Department
Town of Ledyard Public Nursing
Town of Ledyard Health Department
Town of Ledyard Public Schools

LYME EOC

Lyme Emergency Management
Lyme Fire Department
Lyme Ambulance Association
Superintendent of Lyme Consolidated School System District 18

MONTVILLE EOC

Town of Montville Mayor
Town of Montville Civil Preparedness Director
Town of Montville Fire Marshall
Town of Montville Fore Dispatcher
Connecticut State Police (Resident Trooper)
Town of Montville Police Department
Town of Montville Emergency Management Agency Volunteers

CITY OF NEW LONDON EOC

New London City Manager
New London Civil Preparedness Director
New London Assistant Civil Preparedness Director
New London Health and Social Services
New London Fire Chief
New London Police Chief
New London Public School district

OLD LYME EOC

Old Lyme Selectman Member
Old Lyme Emergency Management Director
Connecticut State Police (Resident Trooper)
Old Lyme Police Department
Old Lyme Fire Department
Old Lyme School District Superintendent
Old Lyme School Principal – Mile Creek School
Two Volunteers

WATERFORD EOC

Waterford First Selectman
Waterford Emergency Management
Waterford Fire Marshal Office
Waterford Police Department
Waterford Dispatchers
Waterford Superintendent of Schools
Waterford Building Department
Waterford Department of Public Works
Waterford Sanitation Department
Waterford Outreach Assistant
Waterford Planning Building and Health Dept.
Waterford Recreation and Parks

Waterford Tax Assessor Office
Waterford Water Pollution Control Authority
Waterford Director of Senior Services
Radio Amateur Civil Emergency Services (RACES)

SCHOOLS

Harbor School – New London
Southwest School - Waterford

SPECIAL POPULATIONS - NURSING HOMES

Fairview Nursing Home (Groton)
Groton Regency Nursing Home – (Groton)
Beechwood Nursing Home – (New London)
Nutmeg Pavilion Nursing Home – (New London)

CHILD CARE CENTERS (See APPENDIX 3)

SUPPORT JURISDICTIONS

STONINGTON EOC

Stonington First Selectman
Stonington Emergency Management Agency
Stonington 911 Police Dispatcher
Stonington Police Department
Stonington Department of Public Works

PRIVATE/VOLUNTEER ORGANIZATIONS

American Red Cross
Local Volunteers from Area IV towns
Radio Amateur Civil Emergency System (RACES)

D. Exercise Timeline

Table 1, on the following page, presents the time at which key events and activities occurred during the Millstone Power Station Plume Exposure Pathway exercise on May 17, 2006. Also included are times notifications were made to the participating jurisdictions/functional entities.

ABLE 1. EXERCISE TIMELINE

DATE AND SITE: May 17, 2006, Millstone Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action was Taken								
		State EOC	EOF	Area IV	East Lyme	Fishers Island	City of Groton	Town 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
Alert	0743	0757	0746	0806	0754	0755	0755	0756	0800	0753
Site Area Emergency	0925	0938	0932	0939	0936	0939	0933	0934	0937	0940
General Emergency	1135	1143	1142	1149	1149	1146	1155	1144	1145	1149
Simulated Radiation Release Started	1115	1121	1115	1146	1135	1146	1155	1144	1145	1149
Simulated Radiation Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Facility Declared Operational		0900	0823	0815	0844	0820	0955	0832	0955	0840
Declaration of State of Emergency		0946	0949	1015	1016	1016	1015	1014	1017	1018
Exercise Terminated		1330	1317	1335	1334	1330	1332	1330	1330	1334
Early Precautionary Actions:										
1. Close parks and beaches		0949	N/A	1103	1105	0953	1105	0937	1030	1111
2. School Transfer		0925	N/A	0927	0925	0830	N/A	0937	0937 ¹	0945
3. Shelter Livestock		0945	N/A	1033	1020	N/A	1025	1006	1033	1002
1st A&N Sequence: Stay Tuned		0940	N/A	0948	N/A	0948	0945	N/A	N/A	N/A
1st Siren Activation		0948	N/A	0949	0946	0948	0945	0948	0948	0948
1st EAS Message		0950								
2nd A&N Sequence: Shelter: CDEF Evacuate: AB		1219	N/A	1227	1249	1220	1215	12155	1245	1228
2nd Siren Activation		1226	N/A	1228	1225	1226	1228	1224	1230	1226
2nd EAS Message		1228								
KI Administration Decision:										
Decision for EWs		1221	N/A	1216	1220	1234	1215	1224	1230	1221
Decision for FMTs		1132								
Decision for General Public		1221		1227	1220	1234	1215	1224	1230	1221

¹ EPZ Students remained at schools outside EPZ

TABLE 1. EXERCISE TIMELINE

DATE AND SITE: May 17, 2006, Millstone Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action was Taken									
		State EOC	Montville	New London	Old Lyme	Waterford					
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A					
Alert	0743	0757	0755	0756	0800	0756					
Site Area Emergency	0925	0938	0938	0937	0942	0937					
General Emergency	1135	1143	1144	1155	1147	1150					
Simulated Radiation Release Started	1115	1121	1144	1201	1157	1150					
Simulated Radiation Release Terminated	N/A	N/A	N/A	N/A	N/A	N/A					
Facility Declared Operational		0900	0825	0835	0821	0816					
Declaration of State of Disaster Emergency		0946	1016	1015	1014	1017					
Exercise Terminated		1330	1334	1330	1334	1330					
Early Precautionary Actions:											
1. Close Parks and beaches		0949	1038	1110	1039	1105					
2. School transfer		0925	0937	0812	1002	0950					
3. Shelter livestock		0945	1035	1033	1039	1025					
1st A&N Sequence: Stay Tuned		0940	0946	N/A	1002	1215					
1st Siren Activation		0948	0948	0945	0955	0948					
1st EAS Message		0950									
2nd A&N Sequence: Shelter: CDEF		1221	1215	1215	1224	1224					
Evacuate: AB											
2nd Siren Activation		1226	1228	1227	1232	1226					
2nd EAS Message		1228									
KI Administration Decision:											
Decision for EWs		1221	1215	1215	1215	1215					
Decision for FMTs		1132									
Decision for General Public		1221	1227	1215	1215	1215					

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 May 17, 2006, plume exposure pathway exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Millstone Power Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in the September 12, 2001, Federal Register Notice. 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 criterion from FEMA-REP-14 which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise criterion are listed by number and the demonstration status of those criterion 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)
- U - Unresolved ARCAs from prior exercises

TABLE 2. 2006 EXERCISE EVALUATION GRID

DATE AND SITE: May17, 2006, Millstone Power Station

JURISDICTIONS/LOCATION	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	3.	3.	3.	4.	4.	4.	4.	4.	5.	5.	5.	5.	6.	6.	6.	6.
	a.	b.	c.	d.	e.	a.	b.	b.	c.	d.	e.	a.	b.	c.	c.	d.	d.	e.	e.	f.	a.	a.	a.	b.	c.	a.	a.	a.	b.	a.	b.	c.
	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	2	1	2	1	1	2	3	1	1	1	2	3	1	1	1	1
Old Lyme	M		M	M	M				M			M	M	M	M	M	M									M	M	M				
Waterford	M		M	M	M				M			M	M	M	M	M	M									M	M	M				
Schools																																
Harbor School – New London													M		M																	
Southwest School - Waterford													M		M																	
Special Populations – Nursing Homes																																
Fairview & Groton Regency – Groton													M		M																	
Beechwood Nutmeg Pavillion – New London													M		M																	
Child Care Centers													M		M																	
SUPPORT JURISDICTIONS																																
Stonington EOC																																
	M	M	M	M	M				M																			M				

LEGEND: M = Met (no Deficiency or ARCA(s) assessed)
 D = Deficiency assessed
 C = Prior issue to be coordinated

A = ARCA(s) assessed (not affecting health and safety of public)
 U = Unresolved ARCA(s) from prior exercises

Blank = Not scheduled for demonstration
 N = Not demonstrated as scheduled (reason explained in Section IV.B.)

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 criterion 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 criterion 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 criterion 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 criterion 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.
- **Evaluation Criterion Number** - An alpha-numeric number corresponding to the criterion numbers as contained in the Federal Register Notice dated September 12, 2001.
- **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 staff at the State Office of Emergency Operations Center (EOC) clearly demonstrated their commitment for the health and safety of the citizens of Connecticut, by demonstrating their knowledge of the Connecticut Radiological Response Plan and Procedures. The participating State departments communicated and coordinated with each other so that appropriate recommendations and decisions were made with all available information in the quickest amount of time to ensure that the best protective action decisions were made in the interests of the general public.

- a. **MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2a.1, 2.b.1, 2.b.2, 2.c.1, 2.d.1, 3.a.1, 3.d.1, 5.a.1, 5.b.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION:**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED:**

Issue No.: 38-04-3.a.1-A-01

Description: Kits for Emergency Workers do not contain potassium iodide. CTAP-4.2, Attachment 2, the Dosimetry Briefing Sheet states that KI is in the packets. However, Attachment 1, Radiation Exposure Control Checklist, and Attachment 4, Contents of Emergency Worker Dosimetry Packet, do not list KI among the contents. The understanding by the Radiological Officer was that KI could not be issued until authorization was from the Governor or the Health Director to take KI.

Possible Cause: Misunderstanding of current policy.

Reference: NUREG-0654, H,11, J,10,e; CTAP- 4.2, Attachment 2, the Dosimetry Briefing Sheet; CTAP- 4.2, Attachment 1, Radiation Exposure Control Checklist; CTAP – 4.2, Attachment 4, Contents of Emergency Worker Dosimetry Packet

Effect: Officers were sent to traffic control points with dosimetry but without the capability to take KI. While actions were taken to get KI to the Officers, there is a potential for delay in the taking of KI.

Recommendation: Put KI in the Emergency Worker Kits.

Corrective Actions Demonstrated (all dosimetry using areas except New London)
Radiological Officers in all jurisdictions except one appropriately demonstrated the inclusion of KI tablets when dosimetry was issued, and correctly briefed to all emergency

workers that were issued dosimetry and KI. This action corrects the multiple jurisdictions ARCA 38-04-3.a.1-A-01.

f. PRIOR ARCAs - UNRESOLVED: NONE

1.2 Department of Environmental Protection (DEP)

Staff in the Department of Environmental Protection area of the State EOC functioned as a well trained team. They made excellent use of their procedural checklists. When questionable information was included on the licensee Incident Report Forms, the staff quickly obtained an explanation from their EOF liaison and the licensee SEOC staff. The DEP staff kept the Division of Radiation Director informed of their activities and assisted him in Protective Action Recommendation recommendations.

5.b.1 **a. MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2a.1, 2.b.1, 2.b.2, 2.c.1, 2.d.1, 3.d.1, 5.a.1,

b. DEFICIENCY: NONE

c. AREAS REQUIRING CORRECTIVE ACTION:

d. NOT DEMONSTRATED: NONE

e. PRIOR ARCAs - RESOLVED: 1.d.1

Issue No.: 38-04-1.d.1-A-03

Condition: Periodically throughout the demonstration some problems were encountered by the Emergency Operations Facility (EOF) Liaison such as no answer, encountering voice mail systems on the “Hot Ring Down” line and commercial landlines, and wrong telephone numbers on the telephone list.

Possible Cause: When the EOC is not activated for emergency response operations these offices are occupied by other state personnel. The voice mail systems are for recording messages relative to their routine daily work.

Reference: NUREG-0654, F.1,2

Effect: If critical information needed to be passed by the EOF liaison the problems encountered with the telephone systems could have delayed the passing of this information. In addition, the security codes or pin numbers for the individual voice mails systems are not available to retrieve messages for the emergency response team assigned to the work location.

Recommendation: It is recommended that the voice mail systems be disabled during the activation of the Emergency Operations Center (EOC). Additionally, upon activation of the EOC all of the telephone numbers in the center should be verified and an accurate telephone list be developed and distributed to all responding organizations and jurisdictions.

Schedule of Corrective Actions: Connecticut OEM REP Specialist coordinated a meeting with the OEM Communication Officer, a DEP liaison and Millstone personnel. Discussion included researching the problems encountered during the exercise, testing the phone numbers and direct links, and proposing how the problematic communications lines could be fixed. This will be accomplished as soon as possible to avoid a potential reoccurrence. Meetings are on going until all problems are resolved.

Corrective Action Demonstrated: There were no problems encountered with the dedicated line or commercial phone line in the communications between the EOF liaison and DEP representative in the SEOC. The backup radio system encountered some difficulties however the staff established a work around that was successful. This corrects prior ARCA 38-04-1.d.1-A-03

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

1.3 Emergency Operations Facility (EOF)

The EOF Liaison demonstrated in-depth knowledge and experience in executing his responsibilities and duties. His great attitude and excellent people skills enhanced his ability for close coordination within the various EOF functional areas.

a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.1

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 #1

The Division of Radiation participant demonstrated an excellent understanding of his instrumentation, its capabilities and limitations. He clearly understood his role and how to perform his duties.

a. **MET:** Criterion 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.1, 4.a.2, 4.a.3

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 #2

Field Team Monitoring Team (FMT) personnel followed direction from the Field Team Coordinator (FTC) very well and provided excellent communications to the FTC. The field team member from the Connecticut Department of Environmental Conservation Police, was very familiar with the area and was able to expediently get the FMT to pre-described sampling locations.

- a. **MET:** Criterion 1.d.1, 1.e.1, 3.a.1, 3.b.1, 4.a.2, 4.a.3
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION:** 4.a.1

ISSUE NO.: 38-06- 4.a.1-A-01

CONDITION: Field Monitoring Team did not adequately label the baggie used to store the radioiodine cartridge.

POSSIBLE CAUSE: Field Monitoring Team (FMT) personnel were unable to locate pre-labeled baggies with necessary label information pre-identified.

REFERENCE: NUREG-0654, H.9; CTAP 3.3 DEPDOR-3, Attachment 7 “Radiological Field Monitoring Team Procedure”

EFFECT: Critical plume monitoring data may have been invalidated due to the inability to properly identify correct sample information.

RECOMMENDATION: Provide pre-labeled baggies in field monitoring kits. Provide training to all field monitoring team members as to location of pre-labeled baggies.

SCHEDULE OF CORRETIVE ACTIONS: This will be corrected with training specific on bagging and labeling samples collected. Baggies will be checked to assure adequate supply is available. Additionally, EP and DEMHS will look at the procedures on sampling (CTAP 3.3 DEPDOR-3, Attachment 7 “Radiological Field Monitoring Team Procedure), to determine if additional wording is needed to assure monitoring teams label samples correctly. This should be accomplished within the next (2006/2007 plan revision.

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

1.5 Joint Information Center

The Joint Information Center (JIC) at the State Emergency Operations Center was extremely well organized due to the talents of the Joint Media Coordinator who was very knowledgeable and competent. The Coordinator seemed to be able to anticipate the questions that would be asked from the mock media. The Coordinator's answers were very thorough and intelligent. When questions were asked that could not be immediately answered, the coordinator made sure that the answers were forthcoming in the following Media briefing. No Questions went unanswered.

The services rendered by the Joint Media Coordinator were impressive and can be considered a great asset to the EOC.

- a. **MET:** Criterion 1.c.1, 1.d.1, 1.e.1, 2.d.1, 3.e.2
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION:** 5.b.1

Issue No.: 38-06-5.b.1-A-02

Condition: The 211 Information Line staff did not receive information of the declaration of General Emergency or the status of the ongoing release of radioactive material from the State Emergency Operations Center (SEOC).

Possible Cause: Dominion News Release #04, which contained critical information, was not sent to the 211 Center.

Reference: NUREG 0654, G.4.c.

Effect: Had calls been received at the 211 Information Line center regarding the current emergency classification or release status, incorrect information could have been given to the public.

Recommendation: Ensure that all news releases are forwarded to the 211 Information Line staff from the SEOC.

Schedule of Corrective Actions: This will be corrected with plan/procedure additions and redundancy to assure that critical information is relayed to Infoline 211. This should be accomplished within the next 2006/2007 plan revision. Annual training sessions will include new procedure changes.

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

1.5.1 Connecticut Info Line 211

The 211 Information Line was well versed in handling multiple telephone calls requiring information for the Millstone Power Station exercise. The staff displayed a good questioning attitude and discussed topics among themselves for clarity. They aggressively sought for answers to obtain the correct information. When the information was not readily found in their references, they did not hesitate to attain the data from their available resources.

- a. **MET:** Criterion 1.b.1, 1.c.1, 1.d.1, 5.b.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- e. **PRIOR ARCAs - RESOLVED:** NONE

1.6 State Department of Public Health (Command Center)

The Department of Public Health (DPH) staff participating were experienced, trained and practiced in the tasks they had to do. The DPH used this exercise as a training event to increase the number of staff available to use in the Emergency Command Center (ECC). The ECC staff requested policy support when they felt they did not understand from the Incident Commander or Deputy Incident Commander. The ECC facility was well thought out and had excellent equipment. The work stations were identified for each position and a binder containing the agency plans and procedures used as a checklist of specific responsibilities and guidelines. The ECC staff participated as a unified team and completed all tasks in a prompt and timely manner with a sense of importance and urgency. They exhibited a genuine concern for the communities and without exception were enthusiastic participants.

- a. **MET:** Criterion 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.2, 3.c.1
- b. **DEFICIENCY:** NONE
- c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE
- d. **NOT DEMONSTRATED:** NONE
- d. **PRIOR ARCAs - RESOLVED:** 3.c.1

Issue No.: 38-02-3.c.1-A-02

Note: This issue was identified at the New London EOC but the issue and the responsibility for its correction lies with the Department of Public Health, both at the DPH EOC and the Liaison position in the State EOC.

Condition: At 1000 the New London Health Director discussed the evacuation of the Hospital with the EMS Coordinator at the hospital. The support facilities were polled and the required number of bed spaces identified to receive all the patients. The evacuation commenced at 1012 utilizing town and mutual aid assets. This action was contrary to the State RERP.

Possible Cause: The Health Director and the EMS Coordinator at the hospital acted independently and without notifying Area IV or the State EOC. Their actions did not comply with plans. This appears to be a direction and control issue (1.c.1).

Reference: NUREG-0654, E.7; J.9, 10.c., d., e., g.

Effect: The requirement for ambulances to move the patients could have diverted the assets for another mission assigned by the State. The evacuation routes could become congested. There was a strain on the hospital staff.

Recommendation: Train the staff to coordinate all actions with the Area IV and State agencies before making such decisions. Ensure that the staff follow their plans and procedures.

Corrective Actions Demonstrated: Previous issue 38-02-3.c.1-A-02 was resolved during this exercise in that no similar situation occurred and all activities with regard to implementation of protective action recommendations were in accordance with plans and procedures.

f. PRIOR ARCAs - UNRESOLVED: NONE

1.7 OEM Area IV, Colchester

The Coordinator's detailed knowledge of Area IV's responsibilities and experience of the staff ensured an organized team response.

Area IV performed well in communicating information between the State EOC to the local emergency planning zone towns. Direction and control of the organization was excellent. The organization also did an exemplary job in tracking messages.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.2, 3.d.1, 5.a.1

a. DEFICIENCY: NONE

b. AREAS REQUIRING CORRECTIVE ACTION: NONE

d. NOT DEMONSTRATED: NONE

e. PRIOR ARCAs - RESOLVED: 1.c.1

Issue No.: 38-02-1.c.1-A-03

Condition: Area IV staff did not inform the State EOC of early dismissal of schools in the Town and City of Groton.

Possible Cause: Message received via telephone was given a routine priority classification. Immediately after receipt of the early school dismissal for the Groton School District, the Area IV Coordinator was in the process of establishing an emergency planning zone town conference call.

No Specific requirement requires the Area Coordinator to keep the State EOC informed as to status changes in local EPC communities. This reporting requirement should be repeated for all emergency classification levels. This requirement would be applicable to all CT-OEM Area Coordinator checklists.

Reference: State of Connecticut Agency Procedures CTAP 3.2, OEM-6, Area IV Coordinator.

Effect: The State EOC and Media Center did not receive information about the Groton School District early dismissal. This prevented the Director and the State Media Center from providing information to the public as to the status of school children in the Groton School District. The lack of information about the Groton School District would have brought undue stress and concern to the parents who have children in these schools.

Recommendation: Conduct training on the need to pay more attention to incoming messages and ensure that messages are distributed to appropriate staff members for proper action. Actions completed by the EPZ communities should be reported to the State EOC for resources management and public information purposes.

Change the plan to reflect a requirement for the Area IV Coordinator to advise the State EOC of any actions taken by EPZ communities.

Corrective Action Taken: September 9, 2004, The Area IV communication officer reported all information to the State EOC as he received the information. As the towns provided information on school transfers and dismissals the information was forwarded to the State EOC. These observed actions correct Issue 38-02-1.c.1-03.

f. PRIOR ARCAs - UNRESOLVED: NONE

1.8 Montville State Police Troop E ACP/TCP

DOT and State Police representatives demonstrated a strong commitment to effective emergency response. Troop E and DOT supervisory personnel were proactive and anticipated needs as the events progressed. Radiological briefings for emergency workers were clear and comprehensive. All equipment was operable and communications were effective. The State Police is in the process of installing laptop computers in State Police cruisers. This will improve law enforcement and emergency response capabilities.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2

b. DEFICIENCY: NONE

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

1.9 Connecticut Department of Transportation (DOT)

The TCP/ACP personnel received an excellent radiological briefing. The CT DOT participants were briefed by the CT DOT Equipment Supervisor and State Police participants were briefed by an officer from the Connecticut State Police Emergency Services. Both used wall charts of the Direct Reading Dosimeter (DRD) scales to make sure the participants understood the different scales and how to read and interpret them.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.d.1, 3.c.2
- 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 (STSA)

The Veterans Facility in Rocky Hill is an excellent location to serve as the State Transportation Staging Area (TSA). The grounds of the facility are large enough to accommodate the various types of vehicles that may be required for an evacuation. The TSA staff has done an excellent job in laying out the traffic flow of arriving vehicles in a simple and logical five stop manner. This process ensures that both drivers and vehicles are prepared for their assignments when departing.

STSA staff has been cross trained to assume alternate responsibilities as required. In addition thirty-four residents of the facility have received Community Emergency Response Team (CERT) training and could be called upon for assistance.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.c.2
- d. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**

e. **PRIOR ARCAs - RESOLVED:** 3.b.1
Issue No.: 38-04-3.b.1-A-04

Condition: The Connecticut Transportation Staging Area (TSA) Radiological Briefer did not issue two 130 mg Potassium Iodide (KI) tablets to each transportation driver despite a requirement to do so in numerous sections of the procedures and the availability of a sufficient supply of KI tablets. The briefer stated to the evaluator that his procedures prohibited issuance of KI in dosimetry packets given to emergency workers unless an order to ingest KI had been issued by a state health official at the Headquarters, Office of Emergency Management (OEM). The briefer further stated, both to the evaluator and in the radiological briefing, that emergency workers who needed KI after deployment into the Emergency Planning Zone should obtain it from their destination sources (e.g., Schools, EOCs, host facilities.)

A similar issue, 38-00-14-A-04, written in the 2000 exercise, was corrected during the 2002 exercise at the TSA when two 130 mg tablets of KI were issued to drivers when they picked up their dosimetry packets and received a briefing on dosimetry and KI.

Possible Cause: The Transportation Staging Area Supervisor told the evaluator that the responsibility for storing and issuing KI to emergency drivers had only recently been transferred from the OEM Area III office to the STSA and that the revised procedures had only recently been received at the STSA. Although numerous changes were made in the agency procedures, some members of the staff who are trained to conduct the dosimetry briefings may not have learned of the changes prior to the exercise.

Reference: NUREG-0654, J.10,e; CTAP-3.2, OEM-8 2.2.2, 2.2.4, Attachments 2 and 3; CTAP-4.2, Attachment 10.

Effect: If the ingestion of KI had been recommended after the emergency driver leaves the STSA, it could not have been taken until the KI was issued at a destination location.

Recommendation: Retraining of all TSA staff who might be required to act as the Radiological Briefer or to issue dosimetry and KI should include special emphasis on the need to include the tablets in all dosimetry packets issued to drivers, but to caution drivers, in the dosimetry/KI briefing, not to ingest (swallow) the tablets until specifically directed to do so by their supervisor.

Corrective Actions Taken: Dosimetry and KI briefing instructions were contained in the Office of Emergency Management Transportation Staging Area Procedures, attachment 2 Dosimetry Briefing Sheet dated June of 2004.

During and emergency transportation evacuation bus run demonstration the driver knew that he was only to ingest KI when instructed to do so. His emergency worker exposure control kit contained two KI tablets with and expiration date of March 2007.

This resolves the outstanding Issue # 38-04-3.b.e-A-04.

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

2. RISK JURISDICTIONS

2.1 East Lyme EOC

The East Lyme Emergency Management Team had recently completed a table-top exercise which involved an emergency at Millstone Power Station. Apparently that drill identified a few areas that needed improvement. Apparently those areas were corrected because the East Lyme EOC performed above standard during the exercise.

The most important item noted was the involvement of the upper level management in this exercise.

a. **MET:** Objective 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.c1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. **DEFICIENCY: NONE**

c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**

d. **NOT DEMONSTRATED: NONE**

e. **PRIOR ARCAs - RESOLVED: NONE**

f. **PRIOR ARCAs - UNRESOLVED:**

2.2 Hamlet of Fishers Island, NY, EOC

The Fisher Island EOC did an outstanding job performing their tasks. The amount of manpower that they utilized to conduct and demonstrate all the functions of an EOC is commendable. The EOC/OEM Director had great command and control of the EOC. The staff was made up of all volunteers who did well.

a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

- 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 Emergency Operations Center acted in a professional manner throughout the exercise. They monitored the situation, discussed the impact on their constituents, and developed an appropriate course of action. They demonstrated knowledge of their responsibilities and of emergency response activities, along with the ability to protect the health and safety of the public.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- 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 Town of Groton activated their EOC in accordance with the plans, procedures and extent of play. The Town of Groton provided the capability of key personnel with leadership roles to provide direction and control to the overall response effort for which they are responsible.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**

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

2.5 Ledyard EOC

A major strength of the Ledyard emergency response during the exercise was the command and control function provided by the Emergency Management Director/Civil Preparedness Director. This person clearly demonstrated a background of command and control, and the ability to maintain the big picture, and provide direction to many and different functions being performed simultaneously by emergency operations center staff.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- 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 Civil Preparedness Director was not only very knowledgeable in the Emergency Plan and available recourses and supplies in an emergency situation, he has the ability to communicate to his staff the importance of their position and how it affected the group. He displayed a clear understanding of the need to “close the loop” in an emergency situation.

The Radiological Officer briefing was as if you were in a training class. He did a thorough briefing and ensured each emergency worker zeroed and read their dosimetry through out the exercise.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- 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

The Montville EOC staff members work extremely well together. They are quick to respond to changing situations, diligent in tracking the possible release of radioactive material and current weather conditions, and in communicating the current situation to all members.

The Radiological Officer (RO) in the Montville EOC did an exceptional job during this exercise. His briefings were extremely thorough, and his instructions complete and easy to understand. The RO was also diligent in making sure the appropriate paperwork was correctly filled out, returned as instructed, and prepared for delivery to the State authorities.

- a. **MET:** Criterion 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- 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 Emergency Management Director aggressively sought conformation of information provided at the on-line press briefings from the State Emergency Management Area 4 Office.

- a. **MET: Criterion:** 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
 - b. **DEFICIENCY: NONE**
 - c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
 - d. **NOT DEMONSTRATED: NONE**
 - e. **PRIOR ARCAs - RESOLVED: NONE**
- PRIOR ARCAs - UNRESOLVED: 3.a.1**

PRIOR ISSUE NO. 38-04-3.a.1-A-01

Description: Kits for Emergency Workers do not contain potassium iodide. CTAP-4.2, Attachment 2, the Dosimetry Briefing Sheet states that KI is in the packets. However, Attachment 1, Radiation Exposure Control Checklist, and Attachment 4, Contents of Emergency Worker Dosimetry Packet, do not list KI among the contents. The understanding by the Radiological Officer was that KI could not be issued until authorization was from the Governor or the Health Director to take KI.

Possible Cause: Misunderstanding of current policy.

Reference: NUREG-0654, H,11, J,10,e; CTAP- 4.2, Attachment 2, the Dosimetry Briefing Sheet; CTAP- 4.2, Attachment 1, Radiation Exposure Control Checklist; CTAP – 4.2, Attachment 4, Contents of Emergency Worker Dosimetry Packet

Effect: Officers were sent to traffic control points with dosimetry but without the capability to take KI. While actions were taken to get KI to the Officers, there is a potential for delay in the taking of KI.

Recommendation: Put KI in the Emergency Worker Kits.

Schedule of Corrective Actions: There were three locations that misunderstood the training on KI. CT-OEM would like to request that this ARCA be accredited to the State OEM for better emphasis on this point in future training sessions. The State OEM will correct this ARCA through ongoing training sessions with emphasis on the fact that KI is to be distributed; however the actual ingestion of KI does not happen until the State directs the public and emergency workers to take KI.

Reason Issue Unresolved: All dosimetry kits except those in the Town of New London had KI in the kits. All emergency workers except those in the Town of New London appropriately received their dosimetry and KI prior to deployment to the field.

Although the Town of New London was involved in the training provided by the State, New London personnel did not ensure that the KI was properly included in the dosimetry kits and would not provide it to their emergency workers until after the recommendation for the ingestion of KI was made by the Commissioner of the Department of Public Health.

Recommendation: This issue is being reassigned to New London only. New London personnel should be trained on the proper use of KI and the importance of having it immediately available to emergency workers since its effectiveness is highest if ingestion before or soon after the start of exposure to radioactive iodine (especially since New London is so close to the Millstone Power Station). KI should be included in the dosimetry packets of all emergency workers and should be issued along with the dosimetry.

2.9 Old Lyme EOC

The Volunteer Fire Juniors (High School Students) were a real asset to the Fire Department and Radiological Officer and Emergency Worker Teams. The Emergency Medical Services Coordinator, though new in the position was very thorough in briefing the EOC Team on the requirements and needs of special needs individuals. The Old Lyme Police Constable was integral to the smooth and efficient functioning of the fire and radiological emergency teams performance.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- b. **DEFICIENCY:** NONE

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

2.10 Waterford EOC

The Town of Waterford EOC staff performed very well as a team. Communication and cooperation among this group was excellent. The staff was organized in a logical manner based on function with the Chief Executive Officer directing the overall effort. Each staff member understood their role and demonstrated a unity of effort.

- a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1
- 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 – New London & Waterford

Of the schools visited, all displayed professionalism and a commitment to the task of protecting their respective populations. At the Great Neck School in the Waterford School District, “go-kits” were distributed to each teacher that included emergency student id badges and a variety of emergency response aids, including first aid equipment.

- a. **MET:** 3.b.1, 3.c.2, Questionnaire
- 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 – Groton & New London

Nursing facilities visited, all displayed professionalism and a commitment to the task of protecting their respective populations..

- a. **MET: 3.b.1, 3.c.1 Questionnaire**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- e. **PRIOR ARCAs - RESOLVED: NONE**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

2.13. Special Populations - Child Care Centers

- a. **MET: 3.b.1, 3.c.1, Questionnaire**
- 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 Stonington EOC

The first Selectman was at the EOC for most of the exercise and demonstrated hands on control. The Stonington EOC staff was proactive. They mobilized both their ramp and their police promptly. The police captain in charge, after the first Selectman departed, checked with the State to see if the evacuation of zones A and B would be helped by activating the deployed police to stop traffic headed into the EPZ on US Route 1 and Interstate 95.

- a. **MET: Criterion 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 5.b.1**
- b. **DEFICIENCY: NONE**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE**
- d. **NOT DEMONSTRATED: NONE**
- 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
CDC	Center for Disease Control
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
DHS	Department of Homeland Security
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
EWMDS	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 Power Station Plume Exposure Pathway exercise on May 17, 2006. Evaluator Team Leaders are indicated by the letters "(TL)" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

Department of Homeland Security - New England Field Office (Boston)
 Department of Homeland Security - North East Field Office (New York)

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
GENERAL OBSERVATIONS	R. Poole	DHS NE Field Office
STATE OF CONNECTICUT		
State Emergency Operations Center	R. Swartz (TL)	DHS NE Field Office
	J. Gibbons (TL)	DHS NE Field Office
	M. Geer	ICF
	L. Visniesky	ICF
Department of Environmental Protection	J. Keller	ICF
	S. Eischen	ICF
Emergency Operations Facility	D. Thome	ICF
Field Monitoring Teams	M. Leal	FDA RAC
	T. Honnellio	EPA RAC
Joint Media Center	W. Edmonson	ICF
	D. Cray	ICF
CT 211 Info Line	J. Leatherman	ICF
Department of Health	D. Schweller	ICF
OEM Area IV, Colchester	Roy Smith (TL)	ICF
	D. Blunt	ICF
State Police Access Control/ Traffic Control Points	R. Wessman	ICF
State Department of Transportation - Norwich	R. Wessman	ICF

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
State Transportation Staging Area	W. Cullen	DHS NE Field Office
RISK JURISDICTIONS		
East Lyme	C. Cofer	ICF
Hamlet of Fishers Island, NY	P. Malool	DHS NE Field Office
City of Groton	G. Goldberg	ICF
Town of Groton	D. Henry	ICF
Ledyard	N. Howey	ICF
Lyme	J. Jackson	ICF
Montville	N. Johnson	ICF
City of New London	P. Ringheiser	ICF
Old Lyme	W. McCance	ICF
Waterford	Richard Smith	ICF
SCHOOLS & NURSING HOMES	J. Rossman	ICF
CHILD CARE CENTERS	R. Swartz	NE Field Office
SUPPORT JURISDICTIONS		
Stonington	S. Nelson	ICF

APPENDIX 3

CHILD CARE CENTER LISTING

Bright Horizons Children's Center – Pfizer Kids, 40 High Rock Road, Groton, CT 06340

Cheerful Children, 801 Poquonnock Road, Groton, CT 06340

Cherished Children LLC, 801 Poquonnock Road, Groton, CT 06340 (New owner to above facility)

Children's Nook, Inc., 925 Old Buddington Road, Groton, CT 06340

Eastern Point School Age Child Care, Inc., 130 Shennocossett Road Eastern Point Elementary School, Groton, CT 06340

Fairview Child Development Center, 235 Lestertown Road, Groton, CT 06340

Groton/Mystic Early Childhood Development Center, 591 Poquonnock Road, Groton, CT 06340

Happy Times Nursery School, 119 High Street – Union Baptist Church, Mystic, CT 06355

Noank Baptist Church Day Nursery School, 18 Cathedral Heights – Noank Baptist Church, Noank, CT 06340

Precious Memories Preschool of Sandy Hollow, 195 Sandy Hollow Road – Rear, Mystic, CT 06355

Riverfront Children's Center Inc., 476 Thames St., Groton, CT 064340

Riverfront (Summer Program) 244 Monument St., Groton Heights Elementary School, Groton, CT 06340

St. Andrews Presbyterian Church Preschool, 310 Fort Hill Road, Groton, CT 06340

St. Marks Toddler Play Group Program, 15 Pearl Street, Mystic, CT 06355

Stepping Stones Discovery & Development Center, 177 Pleasant Valley Road, Groton, CT 06340

Treasure Chest Inc., 10 Ward Avenue, Noank, CT 06340

TVCCA Groton Headstart, 36 Central Avenue, Groton, CT 06340

Tollgate Christian Nursery School, 66 Tollgate Road, Groton, CT 06340

YMCA Small World Central Ave. CCC, 40-1/2 Central Avenue, Groton, CT 06340

Center a Drop-In Common Learning & Resource Center, 45 Broad Street, New London, CT 06320

Child Works Pre-School, 3 Garvin Street, New London, CT 06320

Gaynor's Family Day Care Home, 310 Montauk Avenue, New London, CT 06320

Mitchell College Child Learning Center, 701 Montauk Avenue, New London, CT 06320

New London Day Nursery, 7 Vauxhall Street, New London, CT 06320

Pfizer Kids – New London, 81 Pequot Avenue, New London, CT 06320

Stepping Stones – Lawrence and Memorial Hospital, 412 Ocean Avenue, New London, CT 06320

TVCCA Early Care & Education/Head Start – New London, 387 Bayonet Street, New London, CT 06320

YMCA Prime Time, Nathan Hale School, Beech Street, New London, CT 06320

Ballestrini's Day Care Center, Infant/Toddler Program, 90 Rope Ferry Road, Waterford, CT 06385

Ballestrini's Day Care Center, Infant/Toddler Program, 90 Rope Ferry Road, Waterford, CT 06385

Carelot Children's Center, 203 Boston Post Road, Waterford, CT 06385

Clark Lane Middle School, 105 Clark Lane, Waterford, CT 06385

YMCA Prime Time, Clark Junior High School, Clark Lane, Waterford, CT 06385

First Step Learning Center, LLC, 120 Route 32, Uncasville, CT 06382

Prime Time – Charles Murphy Elementary School, 500 Chesterfield Road, Montville, CT 06370

Teddy Bear Hollow Day Care, 517 Norwich-New London Turnpike, Uncasville, CT 06382

Bride Brook Child Care Center, 23 Liberty Way, Niantic, CT 06357

Carelot Children's Center, 315 Flanders Road, East Lyme, CT 06333

Kiddie Kampus Learning Center, 245 Flanders Road, East Lyme, CT 06333

Niantic Community Church Day Care Center, 170 Pennsylvania Ave., Box 467, Niantic, CT 06357

Old Lyme Children's Learning Center Inc., BAASPII, Lyme Consolidated School, Route 156, Lyme, CT 06371

Old Lyme Children's Learning Center – Preschool, 57 Lyme Street, Old Lyme, CT 06371

Old Lyme Children's Learning Center – Infant/Toddler, 57 Lyme Street, Old Lyme, CT 06371

APPENDIX 4
EXERCISE EXTENT-OF-PLAY AGREEMENT

This appendix lists the extent-of-play agreement approved by DHS-CNPPD, New England Field Office on March 7, 2006, for Connecticut DEMHS.

The evaluation criteria, outlined in the Federal Register on September 12, 2001, and amended April 25, 2002, 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 evaluation criteria 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 evaluation criteria.

Extent-of-Play Agreement

The extent-of-play agreement on the following pages was submitted by the State of Connecticut February 24, 2006, respectively, in preparation for the Millstone Power Station Plume Exposure Pathway exercise on May 17, 2006. The extent-of-play agreement includes any significant modification or change in the level of demonstration of each exercise objective listed in this appendix.

Evaluation Area 1 – Emergency Operations Management
Sub-element 1.a.1. Mobilization.

Criterion 1.a.1: Off-site Response organization use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4., D.3., 4., E.1., 2., H.4)

Intent

This sub-element is derived from NUREG-0654 which provides that OROs should have the capability to alert, notify, and mobilize emergency personnel and to activate and staff emergency facilities.

EXTENT OF PLAY - GENERAL

Responsible OROs should demonstrate the capability to receive notification of an emergency situation from the licensee, verify the notification, and contact, alert, and mobilize key emergency personnel in a timely manner. In addition, responsible OROs should demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. Activation of facilities should be completed in accordance with the plan and/or procedures. Pre-positioning of emergency personnel is appropriate, in accordance with the extent of play agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. Further, pre-positioning of staff for an out-of-sequence demonstration is appropriate in accordance with the extent of play agreement.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY – SPECIFIC

1. The following locations and agencies will be pre-positioned and/or demonstrated off-line from the exercise scenario:
 - State Department of Environmental Protection (DEP) Field Teams will be pre-staged at State Police Barracks E in Montville in conjunction with the exercise.
2. A roster and/or procedures indicating 24-hour staffing capability for **key** positions (those emergency personnel necessary to carry out critical functions), as indicated in the plan and/or procedures, will be provided to the evaluator (**demonstration of a shift change is not required**).
3. Stonington exercise play will terminate with Area IV notification that the plume direction is not a threat to Fishers Island. Stonington EOC continues by conducting a tabletop drill of procedures as if Fishers Island were being evacuated.

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 1 – Emergency Operations Management

Sub-element 1.b.1. Facilities.

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have facilities to support emergency response.

EXTENT OF PLAY - GENERAL

Facilities will only be specifically evaluated for this criterion if they are new or have substantial changes in structure or mission. Responsible OROs should demonstrate the availability of facilities that support the accomplishment of emergency operations. Some of the areas to be considered are: adequate space, furnishings, lighting, restrooms, ventilation, backup power and/or alternate facility (if required to support operations).

must be set up based on the ORO’s plans and procedures and demonstrated, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NO EVALUATION REQUIRED

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 1 – Emergency Operations Management
Sub-element 1.c.1. Direction and Control.

Criterion 1.c.1: Key personnel with leadership roles for the Off-Site Response Organization provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d., 2.a.,b.)

Intent

This sub-element is derived from NUREG-0654, which provides that the ORO have the capability to control their overall response to an emergency.

EXTENT OF PLAY - GENERAL

Leadership personnel should demonstrate the ability to carry out essential functions of the response effort, for example; keeping the staff informed through periodic briefings and/or other means, coordinating with other appropriate OROs and ensuring completion of requirements and requests.

All activities associated with direction and control must be performed based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 1 – Emergency Operations Management
Sub-element 1.d.1. Communications and Equipment.

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1., 2.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should establish reliable primary and backup communication systems to ensure communications with key emergency personnel at locations such as the following: appropriate contiguous governments within the emergency planning zone (EPZ), Federal emergency response organizations, the licensee and its facilities, emergency operations centers (EOC), and field teams.

EXTENT OF PLAY - GENERAL

OROs will demonstrate that a primary, and at least one backup system, are fully functional at the beginning of an exercise. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed. Communications equipment and procedures for facilities and field units should be used as needed for the transmission and receipt of exercise messages. All facilities and field teams should have the capability to access at least one communication system that is independent of the commercial telephone system. Responsible OROs should demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations. OROs should ensure that a coordinated communication link for fixed and mobile medical support facilities exist.

The specific communications capabilities of OROs should be commensurate with that specified in the response plan and/or procedures. Exercise scenarios could require the failure of a communications system and the use of an alternate system.

All activities associated with the management of communications capabilities must be demonstrated based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. Communications from the State to the EPZ communities will be relayed through the State Office of Emergency Management (DEMHS) Area 4 Coordinator.
2. Direct communications between the State and Millstone Station will be established between the site Emergency Operations Facility (EOF) and the State EOC (Department of Environmental Protection, Division of Radiation and through the Millstone Power Station (Dominion) Nuclear News Group.).

*** This criteria has been approved for on the spot correction.**

Areas Requiring Corrective Action (ARCA)

Issue No.: 38-04-1.d.1-A-03

Jurisdiction: DEP in State EOC

ARCA: Phone lines were not working properly between EOC and Millstone

Evaluation Area 1 – Emergency Operations Management

Sub-element 1.e.1. Equipment And Supplies To Support Operations.

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H., J.10.a.b.e.f.j.k., 11, K.3.a.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have emergency equipment and supplies adequate to support the emergency response.

EXTENT OF PLAY - GENERAL

Equipment within the facility(ies) should be sufficient and consistent with the role assigned to that facility in the ORO's plans and/or procedures in support of emergency operations. Use of maps and displays is encouraged. All instruments, including air sampling flow meters (field teams only), should be inspected, inventoried, and operationally checked before each use. They should be calibrated in accordance with the manufacturer's recommendations (or at least annually for the unmodified CDV-700 series or if there are no manufacturer's recommendations for a specific instrument; modified CDV-700 instruments should be calibrated in accordance with the recommendation of the modification manufacturer.). A label indicating such calibration should be on each instrument or verifiable by other means. Note: Field team equipment is evaluated under 4.a.1; radiological laboratory equipment under 4.c.1; reception center and emergency worker facilities' equipment is evaluated under 6.a.1; and ambulance and medical facilities' equipment is evaluated under 6.d.1.

Sufficient quantities of appropriate direct-reading and permanent record dosimetry and dosimeter chargers should be available for issuance to all categories of emergency workers that could be deployed from that facility.

Appropriate direct-reading dosimeters should allow individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO's plans and procedures.

Dosimeters should be inspected for electrical leakage at least annually and replaced, if necessary. CDV-138s, due to their documented history of electrical leakage problems, should be inspected for electrical leakage at least quarterly and replaced if necessary. This leakage testing will be verified during the exercise, through documentation submitted in the Annual Letter of Certification, and/or through a staff assistance visit.

Responsible OROs should demonstrate the capability to maintain inventories of KI sufficient for use by emergency workers, as indicated on rosters; institutionalized individuals, as indicated in capacity lists for facilities; and, where stipulated by the plan and/or procedures, members of the general public (including transients) within the plume pathway EPZ.

Quantities of dosimetry and KI available and storage locations(s) will be confirmed by physical inspection at storage location(s) or through documentation of current inventory submitted during the exercise, provided in the Annual Letter of Certification submission, and/or verified during a Staff Assistance Visit. Available supplies of KI should be within the expiration date indicated on KI bottles or blister packs. As an alternative, the ORO may produce a letter from FEMA indicating that the KI supply remains potent, in accordance with Food and Drug Administration (FDA) guidance. FEMA issues these letters based upon the findings of the certified independent laboratory that performed the analysis at the ORO's request and expense.

At locations where traffic and access control personnel are deployed, appropriate equipment (e.g., vehicles, barriers, traffic cones and signs, etc.) should be available or their availability described.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

*** This criteria has been approved for on the spot correction.**

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 2 – Protective Action Decision-Making
Sub-element 2.a.1. Emergency Worker Exposure Control.

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654, K.4.)

Intent

This sub-element is derived from NUREG-0654, which provides that an ORO have the capability to assess and control the radiation exposure received by emergency workers and have a decision chain in place as specified in the ORO’s plans and procedures to authorize emergency worker exposure limits to be exceeded for specific missions.

Radiation exposure limits for emergency workers are the recommended accumulated dose limits or exposure rates that emergency workers may be permitted to incur during an emergency. These limits include any pre-established administrative reporting limits (that take into consideration Total Effective Dose Equivalent or organ-specific limits) identified in the ORO’s plans and procedures.

EXTENT OF PLAY - GENERAL

OROs authorized to send emergency workers into the plume exposure pathway EPZ should demonstrate a capability to meet the criterion based on their emergency plans and procedures.

Responsible OROs should demonstrate the capability to make decisions concerning the authorization of exposure levels in excess of pre-authorized levels and to the number of emergency workers receiving radiation dose above pre-authorized levels.

As appropriate, OROs should demonstrate the capability to make decisions on the distribution and administration of KI, as a protective measure, based on the ORO’s plan and/or procedures or projected thyroid dose compared with the established protective action guides (PAGs) for KI administration.

All activities must be based on the ORO’s plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 2 – Protective Action Decision-Making

Sub-element 2.b.1 RAD Assessment - Protective Action Recommendations-Plume Phase.

Criterion 2.b.1: Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions. (NUREG-0654, I.8., 10., 11. and Supplement 3.)

Intent

This sub-element is derived from NUREG-0654, which indicates that OROs have the capability to independently project integrated dose from exposure rates or other information and compare the estimated dose savings with the protective action guides. OROs have the capability to choose, among a range of protective actions, those most appropriate in a given emergency situation. OROs base these choices on protective action guides (PAGs) from the ORO’s plans and procedures, or EPA 400-R-92-001 and other criteria, such as, plant conditions, licensee protective action recommendations, coordination of protective action decisions with other political jurisdictions (e.g. other affected OROs), availability of appropriate in-place shelter, weather conditions, evacuation time estimates, and situations that create higher than normal risk from evacuation.

EXTENT OF PLAY - GENERAL

During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite protective actions, the ORO should demonstrate the capability to use appropriate means, described in the plan and/or procedures, to develop protective action recommendations (PARs) for decision-makers based on available information and recommendations from the licensee and field monitoring data, if available.

When release and meteorological data are provided by the licensee, the ORO also considers these data. The ORO should demonstrate a reliable capability to validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the PARs appropriate to the scenario. In all cases, calculation of projected dose should be demonstrated. Projected doses should be related to quantities and units of the PAGs to which they will be compared. PARs should be promptly transmitted to decision-makers in a prearranged format. Differences greater than a factor of 10 between projected doses by the licensee and the ORO should be discussed with the licensee with respect to the input data and assumptions used the use of different models, or other possible reasons. Resolution of these differences should be incorporated into the PAR if timely and appropriate. The ORO should demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs. All activities must be based on the ORO’s plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 2 – Protective Action Decision-Making
Sub-element 2.b.2 RAD Assessment- Protective Action Decisions - Plume Phase.

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9., 10.m.)

Intent

This sub-element is derived from NUREG-0654, which indicates that OROs have the capability to independently project integrated dose from exposure rates or other information and compare the estimated dose savings with the protective action guides. OROs have the capability to choose, among a range of protective actions, those most appropriate in a given emergency situation and base these choices on protective action guides (PAGs) from the ORO's plans and procedures, FRC Reports Numbers 5 and 7 or EPA 400-R-92-001 and other criteria, such as, plant conditions, licensee protective action recommendations, coordination of protective action decisions with other political jurisdictions (e.g. other affected OROs), availability of appropriate in-place shelter, weather conditions, evacuation time estimates, and situations that create higher than normal risk from evacuation.

EXTENT OF PLAY - GENERAL

ORO should have the capability to make both initial and subsequent PADs. They should demonstrate the capability to make initial PADs within a timely manner appropriate to the situation, based on notification from the licensee, assessment of plant status and releases, and PARs from the utility and ORO staff.

The dose assessment personnel may provide additional PARs based on the subsequent dose projections, field data, or information on plant conditions. The decision-makers should demonstrate the capability to change protective actions as appropriate based on these projections.

If the ORO has determined that KI will be used as a protective measure for the general public under off-site plans, then the ORO should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for the general public to supplement shelter and evacuation protective actions. This decision should be based on the ORO's plan and/or procedures or projected thyroid dose compared with the established PAG for KI administration. The KI decision-making process should involve close coordination with appropriate assessment and decision-making staff.

If more than one ORO is involved in decision-making, OROs should communicate and coordinate PADs with affected OROs. OROs should demonstrate the capability to communicate the contents of decisions to the affected jurisdictions.

All decision-making activities by ORO personnel must be performed based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Areas Requiring Corrective Action (ARCA)

NONE

Evaluation Area 2 – Protective Action Decision-Making

Sub-element 2.c.1 PADs Consideration of Protective Actions for Special Populations.

Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9., 10.c.d.e.g.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to determine protective action recommendations, including evacuation, sheltering and use of potassium iodide (KI), if applicable, for special population groups (e.g., hospitals, nursing homes, correctional facilities, schools, licensed day care centers, mobility impaired individuals, and transportation dependent individuals). Focus is on those special population groups that are (or potentially will be) affected by a radiological release from a nuclear power plant.

EXTENT OF PLAY - GENERAL

Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for situations where there is a high-risk environment or where high-risk groups (e.g., the immobile or infirm) are involved: In these cases, examples of factors that should be considered are weather conditions, shelter availability, availability of transportation assets, risk of evacuation vs. risk from the avoided dose, and precautionary school evacuations. In situations where an institutionalized population cannot be evacuated, the administration of KI should be considered by the OROs.

Applicable OROs should demonstrate the capability to alert and notify all public school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Contact with public school systems/ districts must be actual.

In accordance with plans and/or procedures, OROs and/or officials of participating public school systems/districts should demonstrate the capability to make prompt decisions on protective actions for students. Officials should demonstrate that the decision making process for protective actions considers (e.g., either accepts automatically or gives heavy weight to) protective action recommendations made by ORO personnel, the ECL at which these recommendations are received, preplanned strategies for protective actions for that ECL, and the location of students at the time (e.g., whether the students are still at home, en route to the school, or at the school).

All decision-making activities associated with protective actions, including consideration of available resources, for special population groups must be based on the ORO’s plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Area Requiring Corrective Action (ARCA)

NONE

<p style="text-align: center;">Evaluation Area 3 – Protective Action Implementation Sub-element 3.a.1. Implementation of Emergency Worker Exposure Control.</p>
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Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to provide for the following: distribution, use, collection, and processing of direct-reading dosimeters and permanent record dosimeters; provide for direct-reading dosimeters to be read at appropriate frequencies by emergency workers; maintain a radiation dose record for each emergency worker; and provide for establishing a decision chain or authorization procedure for emergency workers to incur radiation exposures in excess of protective action guides, always applying the ALARA (As Low As is Reasonably Achievable) principle as appropriate.

EXTENT OF PLAY - GENERAL

ORO's should demonstrate the capability to provide appropriate direct-reading and permanent record dosimetry, dosimetry chargers, and instructions on the use of dosimetry to emergency workers. **For evaluation purposes, appropriate direct-reading dosimetry is defined as dosimetry that allows individual(s) to read the administrative reporting limits (that are pre-established at a level low enough to consider subsequent calculation of Total Effective Dose Equivalent) and maximum exposure limits (for those emergency workers involved in life saving activities) contained in the ORO's plans and procedures.**

Each emergency worker should have the basic knowledge of radiation exposure limits as specified in the ORO's plan and/or procedures. Procedures to monitor and record dosimeter readings and to manage radiological exposure control should be demonstrated.

During a plume phase exercise, emergency workers should demonstrate the procedures to be followed when administrative exposure limits and turn-back values are reached. The emergency worker should report accumulated exposures during the exercise as indicated in the plans and procedures. OROs should demonstrate the actions described in the plan and/or procedures by determining whether to replace the worker, to authorize the worker to incur additional exposures or to take other actions. If scenario events do not require emergency workers to seek authorizations for additional exposure, evaluators should interview at least two emergency workers, to determine their knowledge of whom to contact in the event authorization is needed and at what exposure levels. Emergency workers may use any available resources (e.g. written procedures and/or co-workers) in providing responses.

Although it is desirable for all emergency workers to each have a direct-reading dosimeter, there may be situations where team members will be in close proximity to each other during the entire mission and adequate control of exposure can be affected for all members of the team by one dosimeter worn by the team leader. Emergency workers who are assigned to low exposure rate areas, e.g., at reception centers, counting laboratories, emergency operations centers, and communications centers, may have individual direct-reading dosimeters or they may be monitored by dosimeters strategically placed in the work area. It should be noted that, even in these situations, each team member must still have their own permanent record dosimeter.

Individuals without specific radiological response missions, such as farmers for animal care, essential utility service personnel, or other members of the public who must re-enter an evacuated area following or during the plume passage, should be limited to the lowest radiological exposure commensurate with completing their missions.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. Dosimetry packets will be issued to at least one fourth (1/4) of the individuals in the local EOCs.

*** This criteria has been approved for on the spot correction.**

Areas Requiring Corrective Action (ARCA)

Issue No.: 38-04-3.a.1-A-01

Jurisdiction: State EOC

ARCA: KI not included in Emergency Worker Kits. Confusion of when to take KI

Evaluation Area 3 – Protective Action Implementation
Sub-element 3.b.1. Implementation of KI Decision.

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals (not the general public) is maintained. (NUREG-0654, E. 7., J. 10. e., f.)

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to provide radioprotective drugs for emergency workers, institutionalized individuals, and, if in the plan and/or procedures, to the general public for whom immediate evacuation may not be feasible, very difficult, or significantly delayed. While it is necessary for OROs to have the capability to provide KI to emergency workers and institutionalized individuals, the provision of KI to the general public is an ORO option, reflected in ORO's plans and procedures. Provisions should include the availability of adequate quantities, storage, and means of the distribution of radioprotective drugs.

EXTENT OF PLAY - GENERAL

ORO's should demonstrate the capability to make KI available to emergency workers, institutionalized individuals, and, where provided for in the ORO plan and/or procedures, to members of the general public. ORO's should demonstrate the capability to accomplish distribution of KI consistent with decisions made. Organizations should have the capability to develop and maintain lists of emergency workers and institutionalized individuals who have ingested KI, including documentation of the date(s) and time(s) they were instructed to ingest KI. The ingestion of KI recommended by the designated ORO health official is voluntary. For evaluation purposes, the actual ingestion of KI is not necessary. ORO's should demonstrate the capability to formulate and disseminate appropriate instructions on the use of KI for those advised to take it. If a recommendation is made for the general public to take KI, appropriate information should be provided to the public by the means of notification specified in the ORO's plan and/or procedures.

Emergency workers should demonstrate the basic knowledge of procedures for the use of KI whether or not the scenario drives the use of KI. This can be accomplished by an interview with the evaluator.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Areas Requiring Corrective Action (ARCA)

Issue No.: 38-04-3.b.1-A-04

JURISDICTION: State TSA

ARCA: Rad Briefer did not issue KI to each driver. Briefer believed KI would be given to drivers at destinations.

Evaluation Area 3 – Protective Action Implementation

Sub-element 3.c.1. Implementation of Protective Actions – Special Populations.

Criterion 3.c.1: Protective action decisions are implemented for special population groups, other than schools, within areas subject to protective actions. (NUREG-0654, E.7., J.9., 10.c.d.e.g.)

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to implement protective action decisions, including evacuation and/or sheltering, for all special populations. Focus is on those special populations that are (or potentially will be) affected by a radiological release from a nuclear power plant.

EXTENT OF PLAY - GENERAL

Applicable OROs should demonstrate the capability to alert and notify (e.g., provide protective action recommendations and emergency information and instructions) special populations (hospitals, nursing homes, correctional facilities, mobility impaired individuals, transportation dependent, etc). OROs should demonstrate the capability to provide for the needs of special populations in accordance with the ORO’s plans and procedures.

Contact with special populations and reception facilities may be actual or simulated, as agreed to in the Extent of Play. Some contacts with transportation providers should be actual, as negotiated in the extent of play. All actual and simulated contacts should be logged.

All implementing activities associated with protective actions for special populations must be based on the ORO’s plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. 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 DEMHS to obtain additional transportation resources as necessary.
2. On May 18, 2006, pre-designated nursing care facilities will be surveyed to discuss their emergency procedures. The designated nursing homes include: Fairview and Groton Regency in Groton and Beechwood and Nutmeg Pavilion in New London.

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 3 – Protective Action Implementation
Sub-element 3.c.2. Implementation of Protective Actions – Schools.

Criterion 3.c.2: OROs/School officials decide upon and implement protective actions for schools. (NUREG-0654, J.10.c., d., g.)

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to implement protective action decisions, including evacuation and/or sheltering, for all special populations. Focus is on those special population groups that are (or potentially will be) affected by a radiological release from a nuclear power plant.

EXTENT OF PLAY - GENERAL

Applicable OROs should demonstrate the capability to alert and notify all public school systems/districts, licensed day care centers, and participating private schools within the emergency planning zone of emergency conditions that are expected to or may necessitate protective actions for students.

In accordance with plans and/or procedures, OROs and/or officials of participating public and private schools and licensed day care centers should demonstrate the capability to make and implement prompt decisions on protective actions for students. Officials should demonstrate that the decision making process for protective actions considers (e.g., either accepts automatically or gives heavy weight to) protective action recommendations made by ORO personnel, the ECL at which these recommendations are received, preplanned strategies for protective actions for that ECL, and the location of students at the time (e.g., whether the students are still at home, en route to the school, or at the school).

Implementation of protective actions should be completed subject to the following provisions: At least one school in a school system or district within the EPZ, as appropriate, needs to demonstrate the implementation of protective actions. The implementation of canceling the school day, dismissing early, or sheltering should be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented protective action, all activities to coordinate and complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process. If accomplished through an interview process, appropriate school personnel including decision making officials (e.g., superintendent/principal, transportation director/bus dispatcher), and at least one bus driver (and the bus driver's escort, if applicable) should be available to demonstrate knowledge of their role(s) in the evacuation of school children. Communications capabilities between school officials and the buses, if required by the plan and/or procedures, should be verified.

Officials of the participating school(s) or school system(s) should demonstrate the capability to develop and provide timely information to OROs for use in messages to parents, the general public, and the media on the status of protective actions for schools.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless specified above or indicated in the extent of play agreement.

(Continued)

EXTENT OF PLAY - SPECIFIC

1. The following two selected communities will demonstrate and discuss the ability and resources necessary to implement protective actions for school children:
 - New London School System (1 School)
 - Waterford School System (1 School)
 - On May 18, 2006, the towns of Waterford and New London will conduct a discussion of their plans with the designated school official in each district.

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 3 – Protective Action Implementation

Sub-element 3.d.1. Implementation of Traffic and Access Control –TCP/ACP are established.

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g., j., k.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the capability to implement protective action plans, including relocation and restriction of access to evacuated areas. This sub-element focuses on selecting, establishing, and staffing of traffic and access control points and removal of impediments to the flow of evacuation traffic.

EXTENT OF PLAY - GENERAL

ORO's should demonstrate the capability to select, establish, and staff appropriate traffic and access control points consistent with evacuation/sheltering decisions (for example evacuating, sheltering and relocation), in a timely manner. ORO's should demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled.

Traffic and access control staff should demonstrate accurate knowledge of their roles and responsibilities. This capability may be demonstrated by actual deployment or by interview in accordance with the extent of play agreement.

In instances where ORO's lack authority necessary to control access by certain types of traffic (rail, water, and air traffic), they should demonstrate the capability to contact the State or Federal agencies with authority to control access.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless specified above or indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. Decision making activities at the State and local EOCs to determine and implement traffic access and control points will be discussed.
2. Actual/physical implementation of traffic control points (TCPs) will not be demonstrated, evaluation will be accomplished through discussion with DHS Evaluators and appropriate law enforcement officials.
3. Barrier materials will be observed by DHS evaluators at the State DOT District II Office in Norwich.

Area Requiring Corrective Action (ARCA)

NONE

<p style="text-align: center;">Evaluation Area 3 – Protective Action Implementation Sub-element 3.d.2. Impediments to Evacuation are Identified and Resolved.</p>
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Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10., k.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the capability to implement protective action plans, including relocation and restriction of access to evacuated areas. This sub-element focuses on selecting, establishing, and staffing of traffic and access control points and removal of impediments to the flow of evacuation traffic.

EXTENT OF PLAY - GENERAL

ORO should demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. Actual dispatch of resources to deal with impediments, such as wreckers, need not be demonstrated; however, simulated contacts should be logged.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless specified above or indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 4 – Field Measurement and Analysis

Sub-element 4.a.1. Plume Phase Field Teams are Equipped to Perform Measurement.

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10, I.8., 9., 11.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to deploy field teams with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654 indicates that OROs should have the capability to use field teams within the plume emergency planning zone to measure airborne radioiodine in the presence of noble gases and to measure radioactive particulate material in the airborne plume.

In the event of an accident at a nuclear power plant, the possible release of radioactive material may pose a risk to the nearby population and environment. Although accident assessment methods are available to project the extent and magnitude of a release, these methods are subject to large uncertainties. During an accident, it is important to collect field radiological data in order to help characterize any radiological release. This does not imply that plume exposure projections should be made from the field data.

Adequate equipment and procedures are essential to such field measurement efforts.

EXTENT OF PLAY - GENERAL

Field teams should be equipped with all instruments and supplies necessary to accomplish their missions. This should include instruments capable of measuring gamma exposure rates and detecting the presence of beta radiation. These instruments should be capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on the air sample collection media, consistent with the intended use of the instrument and the ORO's plans and procedures. An appropriate radioactive check source should be used to verify proper operational response for each low range radiation measurement instrument (less than 1 R/hr) and for high range instruments when available. If a source is not available for a high range instrument, a procedure should exist to operationally test the instrument before entering an area where only a high range instrument can make useful readings.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. 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 Power Station and at the Montville State Police barracks. The actual inventory list will be made available.

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 4 – Field Measurement and Analysis
Sub-element 4.a.2. Plume Phase Field Teams Collected Data.

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, I.8., 11., J.10.a).

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to deploy field teams with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654 indicates that OROs should have the capability to use field teams within the plume emergency planning zone to measure airborne radioiodine in the presence of noble gases and to measure radioactive particulate material in the airborne plume.

In the event of an accident at a nuclear power plant, the possible release of radioactive material may pose a risk to the nearby population and environment. Although accident assessment methods are available to project the extent and magnitude of a release, these methods are subject to large uncertainties. During an accident, it is important to collect field radiological data in order to help characterize any radiological release. This does not imply that plume exposure projections should be made from the field data.

Adequate equipment and procedures are essential to such field measurement efforts.

EXTENT OF PLAY - GENERAL

Responsible OROs should demonstrate the capability to brief teams on predicted plume location and direction, travel speed, and exposure control procedures before deployment.

Field measurements are needed to help characterize the release and to support the adequacy of implemented protective actions or to be a factor in modifying protective actions. Teams should be directed to take measurements in such locations, at such times to provide information sufficient to characterize the plume and impacts.

If the responsibility to obtain peak measurements in the plume has been accepted by license field monitoring teams, with concurrence from OROs, there is no requirement for these measurements to be repeated by State and local monitoring teams. If the license teams do not obtain peak measurements in the plume, it is the ORO's decision as to whether peak measurements are necessary to sufficiently characterize the plume. The sharing and coordination of plume measurement information among all field teams (licensee, federal, and ORO) is essential. Coordination concerning transfer of samples, including a chain-of-custody form, to a radiological laboratory should be demonstrated.

ORO's should use Federal resources as identified in the Federal Radiological Emergency Response Plan (FRERP), and other resources (e.g., compacts, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

NONE

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 4 – Field Measurement and Analysis
Sub-element 4.a.3. Radiation Measured and Samples Collected.

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.8., 9., 11.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to deploy field teams with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654 indicates that OROs should have the capability to use field teams within the plume emergency planning zone to measure airborne radioiodine in the presence of noble gases and to measure radioactive particulate material in the airborne plume.

In the event of an accident at a nuclear power plant, the possible release of radioactive material may pose a risk to the nearby population and environment. Although accident assessment methods are available to project the extent and magnitude of a release, these methods are subject to large uncertainties. During an accident, it is important to collect field radiological data in order to help characterize any radiological release. This does not imply that plume exposure projections should be made from the field data. Adequate equipment and procedures are essential to such field measurement efforts.

EXTENT OF PLAY - GENERAL

Field teams should demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates to the field team coordinator, dose assessment, or other appropriate authority. If samples have radioactivity significantly above background, the appropriate authority should consider the need for expedited laboratory analyses of these samples. OROs should share data in a timely manner with all appropriate OROs. The methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form for transfer to a laboratory, will be in accordance with the ORO plan and/or procedures.

ORO's should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

EXTENT OF PLAY - SPECIFIC

1. Based upon the compressed timeframe of the plume exercise DEP field air monitoring teams will be pre-staged and dispatched from State Police Troop E (Montville) barracks.
2. DEP will deploy 2 field teams who will determine plume characteristics by field measurements.
3. Each DEP Field Monitoring Team will be dispatched to a minimum of two sampling points where they will take radiation (exposure) measurements and report them to their Field Team Controller (FTC). The FTC will direct that air samples (one particulate and one iodine) be taken at a minimum of 1 location for each field team.

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 5 – Emergency Notification and Public Information
Sub-element 5.a.1. Primary Alert Completed in Timely Manner.

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum: 1) identification of the State or local government organization and the official with the authority for providing the alert signal and instructional message; 2) identification of the commercial nuclear power plant and a statement that an emergency situation exists at the plant; 3) reference to REP-specific emergency information (e.g., brochures and information in telephone books) for use by the general public during an emergency; and 4) a closing statement asking the affected and potentially affected population to stay tuned for additional information. (10 CFR Part 50, Appendix E & NUREG-0654, E. 1., 4., 5., 6., 7.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to provide prompt instructions to the public within the plume pathway EPZ. Specific provisions addressed in this sub-element are derived from the Nuclear Regulatory Commission (NRC) regulations (10 CFR Part 50, Appendix E.IV.D.), and FEMA-REP-10, "Guide for the Evaluation of Alert and Notification systems for Nuclear Power Plants."

EXTENT OF PLAY - GENERAL

Responsible OROs should demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume pathway EPZ. Following the decision to activate the alert and notification system, in accordance with the ORO's plan and/or procedures, completion of system activation should be accomplished in a timely manner **(will not be subject to specific time requirements)** for primary alerting/notification. The initial message should include the elements required by current FEMA REP guidance.

For exercise purposes, timely is defined as **"the responsible ORO personnel/ representatives demonstrate actions to disseminate the appropriate information/ instructions with a sense of urgency and without undue delay."** If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Procedures to broadcast the message should be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages **is not required**. The alert signal activation may be simulated. However, the procedures should be demonstrated up to the point of actual activation.

The capability of the primary notification system to broadcast an instructional message on a 24-hour basis should be verified during an interview with appropriate personnel from the primary notification system.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. Activation of the Emergency Alert System (EAS) and Public Alerting Systems (PAS) (sirens) will be simulated.

Area Requiring Corrective Action (ARCA)

NONE

Evaluation Area 5 – Emergency Notification and Public Information
Sub-element 5.b.1 Notification of Information to Public in a Timely Manner.

Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E. 5.,7., G.3.a., G.4,a.,b.,c.)

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to disseminate to the public appropriate emergency information and instructions including any recommended protective actions. In addition, NUREG-0654 provides that OROs should ensure the capability exists for providing information to the media. This includes the availability of a physical location for use by the media during an emergency. NUREG-0654 also provides that a system be available for dealing with rumors. **This system will hereafter be known as the Public Inquiry Hotline.**

EXTENT OF PLAY - GENERAL

Subsequent emergency information and instructions should be provided to the public and the media in a timely manner (**will not be subject to specific time requirements**). For exercise purposes, timely is defined as “the responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay.” If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

The OROs should ensure that emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information should contain all necessary and applicable instructions (e.g., evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concerning pets, shelter-in-place instructions, information concerning protective actions for schools and special populations, public inquiry telephone number, etc.) to assist the public in carrying out protective action decisions provided to them. OROs should demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion pathway EPZs. This includes demonstration of the capability to use familiar landmarks and boundaries to describe protective action areas.

The emergency information should be all-inclusive by including previously identified protective action areas that are still valid as well as new areas. The OROs should demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the OROs should demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plan and/or procedures.

ORO should demonstrate the capability to develop emergency information in a non-English language when required by the plan and/or procedures.

If ingestion pathway measures are exercised, OROs should demonstrate that a system exists for rapid dissemination of ingestion pathway information to pre-determined individuals and businesses in accordance with the ORO’s plan and/or procedures.

(Continued)

Sub-element 5.b.1 Notification of Information to Public in a Timely Manner. (Continued)

OROs should demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute media releases as the situation warrants. The OROs should demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and media releases should be consistent with protective action decisions and other emergency information provided to the public. Copies of pertinent emergency information (e.g., EAS messages and media releases) and media information kits should be available for dissemination to the media.

OROs should demonstrate that an effective system is in place for dealing with calls to the Public Inquiry Hotline. Hotline staff should demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, should be included, as appropriate, in emergency information provided to the public, media briefings, and/or media releases.

All activities for this criterion must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

EXTENT OF PLAY - SPECIFIC

1. A joint media center at the State Armory will be demonstrated by using mock media.
2. Public Inquiry/Rumor Control will be demonstrated by INFOLINE 211 (Informational Call Line):

*** This criteria has been approved for on the spot correction.**

Areas Requiring Corrective Action (ARCA)

NONE

APPENDIX 5

EXERCISE SCENARIO

The following is a narrative description of the exercise as excerpted from the exercise scenario.

On-site personnel are limited to the normal weekday complement. Unit 2 is currently and has been operating at 100% power for the past 220 days. Units 1 and 3 operating modes are as found. All plant parameters are normal except for Channel B of the ICC is out of service due to needed power supply repairs.

At 0740, the Control Room receives Fire Trouble annunciators for “A” or “B” D/G (dependent on protected train). One minute later the Control Room receives a report from a Security Guard that there is a fire in the “A” or “B” D/G room. Crew enters AOP 2559, Fire and Fire Brigade will respond to combat the fire (response is in accordance with FPI-50).

The Shift Manager will assess accident conditions, declare an **ALERT C-1** based on GA-2, Fire/Gases, Fire or Explosion Affecting Safe Shutdown Area AND Damage to Structures OR Equipment Indicated”. Shift Manager will assume the role of Control Room Director of Station Emergency Operations (CR DSEO).

At 0750, Control Room is notified by Turbine Building PEO of a leak discovered on the U2 “A” Service Water Strainer.

Fire Brigade Advisor will provide data that fire is extinguished at 0825.

At 0925, U2 Control Room receives indications of a steam line leak in the Enclosure Building. Crew may initiate a rapid down power or trip the reactor at this time. Subsequently they receive a “hi” vibration alarm annunciator on the “B”-RCP. Subsequently, reports are received from SAP (HP), NAP (HP), and Security that small amounts of steam are coming out of the seams of the U2 Enclosure Building.

Control Room received indications of an LPM in the lower vessel. Control Room receives vibration data for the RCP and as a result manually trips the reactor. Manual trip is successful and all rods insert. During the reactor trip response the Control Room experiences a total loss of annunciators, a loss of SPDS and PPC, and a loss of ICC. ERDS is also lost at this time.

The Manager of Control Room Operations and the Assistant Director Technical Support will assess accident conditions and discuss the situation with the EOF-DSEO. The EOF-DSEO will declare a **SITE AREA EMERGENCY C-2** in accordance with Procedure EPI-FAP06-003, Classification and PARs, based on Equipment Failure, ES-4, Loss of Annunciators/Transient.

Control Room receives indications of a SGTR on #1 S/G. Reports from SAP (HP), NAP (HP), and Security that large amounts of steam are coming out of and rolling down the sides of the U2 Enclosure Building. U2 Control Room receives message from U3 CR (Booth) that a CBI has been initiated. The Manager of Control Room Operations and the Assistant Director Technical Support will assess accident conditions and discuss the situation with the DSEO. The DSEO will declare a **GENERAL EMERGENCY, State Posture Code ALPHA** in accordance with Procedure MP-EPI-FAP06-002, based on OG1, Offsite Release. Based on current radiological release and meteorological conditions, and associated procedural requirements, Millstone should issue the following PARs when the General Emergency is declared:

EVACUATE: Zones – A and East Lyme and Waterford in B;

SHELTER: All Other communities in B.

KI: Recommend State Implement KI strategy

At 1330, Exercise play is terminated as directed by the Exercise Manager. Emergency response facility managers are directed to begin deactivation and restoration of their respective facilities.