



Pilgrim Nuclear Power Station

After Action Report/ Improvement Plan

Exercise Date - March 21, 2013

Radiological Emergency Preparedness (REP) Program



FEMA

Published March 21, 2013

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EXECUTIVE SUMMARY

On March 21, 2013 a full-scale plume exercise was conducted in the 10-mile plume emergency planning zone (EPZ) around the Pilgrim Nuclear Power Station (PNPS) by the Federal Emergency Management Agency (FEMA), Region I. Out-of-sequence demonstrations of local schools, daycares, Medical Service (MS-1) Hospitals and special facilities were conducted on various dates from June through September, 2012. The purpose of the exercise and the out-of-sequence demonstrations was to assess the level of State and local preparedness in responding to a radiological emergency. The exercise and out-of-sequence demonstrations were 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 prior full-scale exercise at this site was conducted on November 16 & 17, 2010. The qualifying emergency preparedness exercise was conducted on March 3, 1982.

FEMA wishes to acknowledge the efforts of the many individuals in the Commonwealth of Massachusetts; the Massachusetts risk jurisdictions of Carver, Duxbury, Kingston, Marshfield, and Plymouth; the host jurisdictions of Taunton and Braintree. The various agencies, organizations, and units of government from these State and local jurisdictions who participated in this exercise are listed in Section III of this report.

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

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

- Duxbury schools and day care centers

- Kingston schools, day care centers, and special facilities

- Plymouth schools, day care centers, special facilities, and camps

- Carver camp facility
- Caritas Good Samaritan Medical Center- MS-1 Hospital
- Brockton KI Dispensing Site (KIDS)
- Bridgewater Reception Center

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. As a result of this exercise, there were no Deficiencies identified and two Areas Requiring Corrective Action (ARCAs), one of which was successfully re-demonstrated. There was also one ARCA from the 2010 exercise which was successfully re-demonstrated.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Pilgrim Nuclear Power Station

Type of Exercise

Plume

Exercise Date

March 21, 2013

Program

Department of Homeland Security/FEMA Radiological Emergency Preparedness Program

Scenario Type

Radiological Emergency

1.2 Exercise Planning Team Leadership

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1.3 Participating Organizations

Agencies and organizations of the following jurisdictions participated in the Pilgrim Nuclear Power Station exercise:

State Jurisdictions

- Massachusetts Department of Corrections- Bridgewater
- Massachusetts Department of Public Health, Radiation Control Program
- Massachusetts Department of Transportation
- Massachusetts Emergency Management Agency
- Massachusetts Emergency Management Agency Region II
- Massachusetts National Guard
- Massachusetts State Police
- Nuclear Incident Advisory Team Field Monitoring Team

Risk Jurisdictions

- Carver Council on Aging
- Carver Department of Public Works
- Carver Emergency Management
- Carver Emergency Medical Services
- Carver Police Department
- Carver School District
- Carver Town Administrator

Carver Town Board of Selectmen
Carver Volunteer Fire Department
Kingston Board of Selectmen
Kingston Emergency Management Agency
Kingston Fire Department
Kingston Police Department
Kingston Streets, Trees, and Parks
Marshfield Board of Selectmen
Marshfield Emergency Management Agency
Marshfield Fire Department
Marshfield Police Department
Marshfield Public Works
Marshfield School Department
Plymouth Department of Public Works
Plymouth Fire Department
Plymouth Office of Emergency Management
Plymouth Police Department
Plymouth Public Health Department
Plymouth Public School System
Silver Lake School District
Town of Plymouth Community Emergency Response Team
Town of Plymouth Public Information Officer
Town of Plymouth Town Manager
Duxbury Emergency Management
Duxbury Police Department
Duxbury Fire Department
Duxbury School Department
Duxbury Town Board of Selectmen

Support Jurisdictions

Braintree Community Emergency Response Team
Braintree City Engineer
Braintree Department of Public Works
Braintree Emergency Management Agency
Braintree Health Department

Braintree Office of Veteran's Affairs
Braintree Police Department
Braintree School Department
Braintree Water Department
Taunton Community Emergency Response Team
Taunton City Engineer
Taunton Department of Public Works
Taunton Emergency Management Agency
Taunton Health Department
Taunton Office of Veteran's Affairs
Taunton Police Department
Taunton School Department
Taunton Water Department

Private Organizations

American Red Cross
Entergy Pilgrim Nuclear Power Station
Massachusetts 2-1-1
Radio Amateur Civil Emergency Service

Federal Jurisdictions

United States Coast Guard

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

FEMA Region I evaluated the 2013 Pilgrim Nuclear Power Station Graded Exercise on March 21, 2013. The exercise was designed to assess the capabilities of state and local emergency preparedness organizations in implementing their Radiological Emergency Response Plans (RERPs) and procedures to protect the public health and safety during a radiological emergency involving Pilgrim Nuclear Power Station. The purpose of this report is to present the results and findings on the performance of the offsite response organizations (OROs) during a simulated radiological emergency in the HSEEP format.

2.2 Exercise Objectives, Capabilities and Activities

2.3 Scenario Summary

The exercise scenario was developed to evaluate the response of the exercise participants to a radiological emergency. The scenario is listed in Appendix: Exercise Plan.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise Evaluation and Results

This section contains the results and findings of the evaluation of all jurisdictions and functional entities that participated in the March 21, 2013 Plume Exercise, conducted to test the offsite emergency response capabilities of State and local governments in the Pilgrim Nuclear Power Station 10-Mile Emergency Planning Zone.

Each jurisdiction and functional entity was evaluated on its demonstration of criteria contained in the exercise evaluation areas as outlined in the federal Register, Volume 67, No. 80 "FEMA - Radiological Emergency Preparedness: Exercise Evaluation Methodology" (April 25, 2002).

Detailed information on the evaluation area criteria and the extent-of-play agreements for the drill are included as appendices to this report.

3.2 Summary Results of Exercise Evaluation

The matrix presented in the table on following pages represents the status of all exercise evaluation criteria that were demonstrated during this exercise cycle by all participating jurisdictions and functional entities. Exercise criteria are listed by number and the demonstration status of those criteria are indicated by the use of the following letters:

M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercise)

A - ARCAs assessed or unresolved ARCAs from previous exercises

D - Deficiency assessed

P - Plan Issues

N - Not Demonstrated

Table 3.1 - Summary of Exercise Evaluation (4 pages)

DATE: 2013-03-21 SITE: Pilgrim Nuclear Power Station, MA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		MA SEOC	MA 211	MA RII EOC	MA PNPS EOF	MA PNPS FMT-1	MA PNPS FMT-2	MA PNPS JIC	Carver EOC	Duxbury EOC	Kingston MA EOC	Marshfield EOC
Emergency Operations Management												
Mobilization	1a1	M		M	M	M	M	M	M	M	M	M
Facilities	1b1	M										
Direction and Control	1c1	M		M	M			M	M	M	M	M
Communications Equipment	1d1	M	M	M	M	M	M	M	M	M	M	M
Equipment and Supplies to Support Operations	1e1	M	M	M	M	M	M	M	M	M	M	M
Protective Action Decision Making												
Emergency Worker Exposure Control	2a1	M			M							
Dose Assessment & PARs & PADs for the Emergency Event	2b1	M			M							
Dose Assessment & PARs & PADs for the Emergency Event	2b2	M			M							
PADs for the Protection of persons with disabilities and access/functional needs	2c1	M										
Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1											
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1											
Protective Action Implementation												
Implementation of Emergency Worker Exposure Control	3a1			M	M	M	M	M	M	M	M	M
Implementation of KI Decision for Institutionalized Individuals and the Public	3b1			M					M	M	M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1			M					M	M	M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c2			M					M	M	M	M
Implementation of Traffic and Access Control	3d1			M					M	M	M	M
Implementation of Traffic and Access Control	3d2			M					M	M	M	M
Implementation of Ingestion Pathway Decisions	3e1											
Implementation of Ingestion Pathway Decisions	3e2											
Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions	3f1											
Field Measurement and Analysis												
RESERVED	4a1											
Plume Phase Field Measurement and Analyses	4a2				M							
Plume Phase Field Measurement and Analyses	4a3					M	M					
Post Plume Phase Field Measurements and Sampling	4b1											
Laboratory Operations	4c1											
Emergency Notification and Public Info												
Activation of the Prompt Alert and Notification System	5a1	M										
RESERVED	5a2											
Activation of the Prompt Alert and Notification System	5a3											
Activation of the Prompt Alert and Notification System	5a4											
Emergency Information and Instructions for the Public and the Media	5b1	M	M						M	M	M	M
Support Operations/Facilities												
Monitoring, Decontamination, and Registration of Evacuees	6a1											
Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1											

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Temporary Care of Evacuees	6c1																		
Transportation and Treatment of Contaminated Injured Individuals	6d1																		

Table 3.1 - Summary of Exercise Evaluation (Continued. page 2/4)

													Plymouth EOC	Braintree EOC	Bridgewater EOC	Taunton EOC	AMR Ambulance Company	Good Samaritan MS-1 Hospital	Camp Clark - Pilgrim	Alden Elementary	Bourne Dale	Camp Cachelot	Camp Clear	
<p align="center">DATE: 2013-03-21 SITE: Pilgrim Nuclear Power Station, MA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated</p>																								
Emergency Operations Management																								
Mobilization	1a1	M	M		M				M	M													M	
Facilities	1b1	M			M																			
Direction and Control	1c1	A	M		M																			
Communications Equipment	1d1	M	M		M																			
Equipment and Supplies to Support Operations	1e1	M	M		M																			
Protective Action Decision Making																								
Emergency Worker Exposure Control	2a1																							
Dose Assessment & PARs & PADs for the Emergency Event	2b1																							
Dose Assessment & PARs & PADs for the Emergency Event	2b2																							
PADs for the Protection of persons with disabilities and access/functional needs	2c1																							
Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1																							
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1																							
Protective Action Implementation																								
Implementation of Emergency Worker Exposure Control	3a1	M							M															
Implementation of KI Decision for Institutionalized Individuals and the Public	3b1	M								M	M	M	M	M	M									
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1	M	M		M																			
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c2	M								M	M	M	M	M										
Implementation of Traffic and Access Control	3d1	M	M		M																			
Implementation of Traffic and Access Control	3d2	M	M		M																			
Implementation of Ingestion Pathway Decisions	3e1																							
Implementation of Ingestion Pathway Decisions	3e2																							
Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions	3f1																							
Field Measurement and Analysis																								
RESERVED	4a1																							
Plume Phase Field Measurement and Analyses	4a2																							
Plume Phase Field Measurement and Analyses	4a3																							
Post Plume Phase Field Measurements and Sampling	4b1																							
Laboratory Operations	4c1																							
Emergency Notification and Public Info																								
Activation of the Prompt Alert and Notification System	5a1	M																						
RESERVED	5a2																							
Activation of the Prompt Alert and Notification System	5a3																							
Activation of the Prompt Alert and Notification System	5a4																							
Emergency Information and Instructions for the Public and the Media	5b1	M	M		M																			

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Support Operations/Facilities																				
Monitoring, Decontamination, and Registration of Evacuees	6a1																			
Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1																			
Temporary Care of Evacuees	6c1																			
Transportation and Treatment of Contaminated Injured Individuals	6d1							M	M											

Table 3.1 - Summary of Exercise Evaluation (Continued. page 3/4)

DATE: 2013-03-21 SITE: Pilgrim Nuclear Power Station, MA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated	Camp Massasoit	Camp Squanto	TAP	Community Conn	Crayon	Duxbury HS	Duxbury MS	Elements	Garden of Knowledge	Habitation	High Point
	Emergency Operations Management										
Mobilization	1a1		M	M	M	M	M	M	M	M	M
Facilities	1b1										
Direction and Control	1c1										
Communications Equipment	1d1										
Equipment and Supplies to Support Operations	1e1										
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Dose Assessment & PARs & PADs for the Emergency Event	2b1										
Dose Assessment & PARs & PADs for the Emergency Event	2b2										
PADs for the Protection of persons with disabilities and access/functional needs	2c1										
Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1										
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3a1										
Implementation of KI Decision for Institutionalized Individuals and the Public	3b1	M	M	M	M	M	M	M	M	M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1			M	M					M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c2	M	M			M	M	M	M		
Implementation of Traffic and Access Control	3d1										
Implementation of Traffic and Access Control	3d2										
Implementation of Ingestion Pathway Decisions	3e1										
Implementation of Ingestion Pathway Decisions	3e2										
Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions	3f1										
Field Measurement and Analysis											
RESERVED	4a1										
Plume Phase Field Measurement and Analyses	4a2										
Plume Phase Field Measurement and Analyses	4a3										
Post Plume Phase Field Measurements and Sampling	4b1										
Laboratory Operations	4c1										
Emergency Notification and Public Info											
Activation of the Prompt Alert and Notification System	5a1										
RESERVED	5a2										
Activation of the Prompt Alert and Notification System	5a3										
Activation of the Prompt Alert and Notification System	5a4										
Emergency Information and Instructions for the Public and the Media	5b1										
Support Operations/Facilities											
Monitoring, Decontamination, and Registration of Evacuees	6a1										

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Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1																			
Temporary Care of Evacuees	6c1																			
Transportation and Treatment of Contaminated Injured Individuals	6d1																			

Table 3.1 - Summary of Exercise Evaluation (Continued, page 4/4)

DATE: 2013-03-21 SITE: Pilgrim Nuclear Power Station, MA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		Hop, Skip & Jump	Leaping Frogs	Learning Safari	Room 2 Grow	Small Scholars	Silver Lake HS	Silver Lake MS	Miss Joanne's	Stafford Hill	Tiny Town
Emergency Operations Management											
Mobilization	1a1	M	M	M	M	M	M	M	M	M	M
Facilities	1b1										
Direction and Control	1c1										
Communications Equipment	1d1										
Equipment and Supplies to Support Operations	1e1										
Protective Action Decision Making											
Emergency Worker Exposure Control	2a1										
Dose Assessment & PARs & PADs for the Emergency Event	2b1										
Dose Assessment & PARs & PADs for the Emergency Event	2b2										
PADs for the Protection of persons with disabilities and access/functional needs	2c1										
Radiological Assessment and Decision-making for the Ingestion Exposure Pathway	2d1										
Radiological Assessment & Decision-making Concerning Post-Plume Phase Relocation, Reentry, and Return	2e1										
Protective Action Implementation											
Implementation of Emergency Worker Exposure Control	3a1										
Implementation of KI Decision for Institutionalized Individuals and the Public	3b1	M	M	M	M	M	M	M	M	M	M
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c1									M	
Implementation of Protective Actions for persons with disabilities and access/functional needs	3c2	M	M	M	M	M	M	M	M		M
Implementation of Traffic and Access Control	3d1										
Implementation of Traffic and Access Control	3d2										
Implementation of Ingestion Pathway Decisions	3e1										
Implementation of Ingestion Pathway Decisions	3e2										
Implementation of Post-Plume Phase Relocation, Reentry, and Return Decisions	3f1										
Field Measurement and Analysis											
RESERVED	4a1										
Plume Phase Field Measurement and Analyses	4a2										
Plume Phase Field Measurement and Analyses	4a3										
Post Plume Phase Field Measurements and Sampling	4b1										
Laboratory Operations	4c1										
Emergency Notification and Public Info											
Activation of the Prompt Alert and Notification System	5a1										
RESERVED	5a2										
Activation of the Prompt Alert and Notification System	5a3										
Activation of the Prompt Alert and Notification System	5a4										
Emergency Information and Instructions for the Public and the Media	5b1										
Support Operations/Facilities											
Monitoring, Decontamination, and Registration of Evacuees	6a1										
Monitoring and Decontamination of Emergency Workers and their Equipment and Vehicles	6b1										
Temporary Care of Evacuees	6c1										

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Transportation and Treatment of Contaminated Injured Individuals	6d1																			
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3.3 Criteria Evaluation Summaries

3.3.1 Massachusetts Jurisdictions

3.3.1.1 Massachusetts State Emergency Operations Center

Criterion 1.a.1:

During the Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise on Thursday, March 21, 2013, the Massachusetts State Emergency Operations Center (State EOC) in Framingham successfully demonstrated effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner.

The State EOC operates a 24 hour Communications Warning Point at its headquarters in Framingham. In addition to monitoring other public emergencies, the Communications Dispatcher monitored a Dedicated Notification Network (DNN) computerized telephone system that is linked directly to the Pilgrim Nuclear Power Station (PNPS). During the Exercise, the communications office had four dispatchers on duty, one dispatcher was assigned to the Exercise, one to monitor real-world events, and two dispatchers were in training. When PNPS contacted the State EOC Communications Office on the DNN at 0832, the dispatcher answered the call and recorded the PNPS Alert Emergency Classification Notification (ECL) information on the prescribed notification form. PNPS declared an Alert at 0825 because the plant was at an Emergency Action Level (EAL) HA2.1, (Fire or explosion that affects needed safety-related equipment). When the notification call ended, the communications dispatcher received verification of the same information on a dedicated facsimile (fax) transmittal from PNPS, and by a second fax in the communications office of the ECL. PNPS notified the State EOC in the same manner when the ECL changed. The State EOC Standard Operating Procedure (SOP) is to activate the State EOC at an Alert ECL.

The communications dispatcher called the duty officer at 0833, and began the call down roster list as stated in their plans and procedures. The communications dispatcher also sent an e-mail blast that included representatives of the U.S. Coast Guard, and then activated the Health and Homeland Alert Network (HHAN). The HHAN system sends out text messaging, telephone messaging, and e-mails. The State EOC staff is required to acknowledge that they received incident response information including the PNPS ECL, and the order to report to the State EOC for duty. The communications dispatcher monitored the record of the responses, and placed

follow-up calls until all identified State EOC positions were identified and staffed. The extent of play allowed a compressed time: 10 minutes/hour of normal travel response time for rostered staff to report to the State EOC. The communications dispatcher contacted each of the State EOC Executive Staff by actual telephone calls.

At 0845, the State EOC Director declared the State EOC activated. At 0900, after all key personnel had arrived, the State EOC Director declared the State EOC fully operational.

Key State EOC positions identified for 24 hour staffing in the State EOC Concept of Operations are:

- Director
- Technical Hazards Officer
- Operations Section Chief
- Planning Section Chief
- Public Affairs Officer
- Communications Officer
- Public Information Officer
- Massachusetts Department of Public Health
- Massachusetts Department of Transportation
- Massachusetts State Police Representative

Other key personnel included: Pilgrim Nuclear Power Station liaison, the United States Coast Guard liaison, Massachusetts Army National Guard liaison, American Red Cross liaison, and MA Emergency Management Team support staff for Operations, Public Information, Public Affairs, Planning, Logistics, and Graphic Information System (GIS). The Federal Emergency Management Agency (FEMA), Region I provided a liaison to work with the State EOC in facilitating the State requests for federal assistance.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.b.1:

During the Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise on Thursday, March 21, 2013, the Massachusetts State Emergency Operations Center (State EOC) in Framingham newly renovated facility was sufficient to support the emergency

response.

In the last year, the State EOC in Framingham has undergone renovations and enhancements to support the emergency response operations office. The State EOC facility was set up (as shown in their floor plan), and operated according to the ORO's plans and procedures. The floor chart was posted on the wall and the outline of the State EOC was identical to the floor plan.

The State EOC has adequate spacing, the furnishings were set up to provide individual work stations that included: outlets and telephone data jacks for additional telephones and computers, chairs, three WebEOC display boards positioned in the EOC so that all emergency response personnel could view, two digital wall clocks, a battery operated wall clock, copier and a facsimile (fax) machine. The State EOC has improved lighting, the restrooms, and the A & B Ventilation Systems are the same as before. Back-up power consists of battery back-up monitors if the initial power should be temporarily lost, and three existing (APC Brand) generators.

Interview with the deputy logistics officer who stated the State EOC could accommodate up to ninety personnel by using other offices within the Massachusetts Emergency Management Agency (MEMA), surge space and the media room. MEMA offices are equipped with telephone data jacks, outlets, and AV screens. Access to the facility is controlled by secured doors and identification is required at check in.

If an incident occurred and the State EOC was not operational, the Director and his staff would report to the alternate facility at MEMA Region III-IV in Agawam, MA.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

During the Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise on Thursday, March 21, 2013, the Massachusetts State Emergency Operations Center (State EOC) key personnel with leadership roles for the ORO successfully provided direction and control to that part of the overall response effort for which they are responsible.

The Director of the Massachusetts State Emergency Management Agency (MEMA) is in charge

of the State EOC. The State EOC Director utilized key operations personnel along with supporting agencies, and together was able to successfully implement, and successfully demonstrate direction and control.

The State EOC personnel received up-to-date information on current events which were provided to all State EOC personnel by display of WebEOC, current logs, display of maps status boards, and by periodic briefings. Copies of messages through Facsimile (fax), communications logs and incoming telephone calls were logged and maintained throughout the State EOC which was distributed to all key players. The State EOC Director conducted numerous briefings during the Exercise as updates were received and kept all response personnel informed on current events, plant status, Emergency Classification Levels (ECL) and critical activities and decisions.

The State EOC Director received recommendations from all agencies represented in the State EOC including the Massachusetts Department Public Health Commissioner thorough the Massachusetts Department of Public Health Coordinator, and the PNPS Liaison. Those recommendations were utilized by the State EOC Director to authorize Precautionary Actions Recommendations (PARs), and Protective Action Decisions (PADs) for the emergency works and for the general public.

The State EOC Director asked his staff to think about what if possible scenarios such as: possible changes in wind directions, transportation, evacuations etc., in an event this was a real-world incident. The State EOC Director and Operations Staff were all knowledgeable and showed a concerned, caring attitude for the general public. The staff worked together and shared their agencies status updates with all response personnel.

The State EOC Plans and Procedures were readily available in hard copy and contained guidelines; check off lists, plan and procedures for each identified key position.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.d.1:

During the March 21, 2013, Pilgrim Nuclear Power Station (PNPS) Exercise, communications were adequately demonstrated by the communications dispatcher at the Massachusetts State Emergency Operations Center (MA SEOC). The primary communication system consisting of

BECONS radio systems was demonstrated satisfactorily, additionally; the alternate system consisting of landline telephone was also demonstrated satisfactorily. The Communications dispatcher had a list of each Emergency Planning Zones (EPZs) community's telephones numbers. The Communications Dispatcher would verify that all emergency planning zone communities were present prior to broadcasting any messages for the Massachusetts State Emergency Operations Center. Message traffic was managed to ensure that all message traffic was handled without delays that disrupted the conduct of emergency operations.

The initial notification of the Alert Emergency Classification Level (ECL) was received from the Pilgrim Nuclear Power Station on the Digital Notification Network (DNN) at 0832. In addition to the call on the DNN, Pilgrim Nuclear Power Station sent a fax notification to the MA SEOC informing them of the Alert at Pilgrim Nuclear Power Station. All subsequent ECL changes were conducted via the DNN and fax from Pilgrim Nuclear Power Station.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 1.e.1:

During the March 21, 2013 Pilgrim Nuclear Power Station Exercise, equipment and supplies were adequate at Massachusetts Emergency Operations Center (MA SEOC).

The equipment and supplies were sufficient and consistent to support emergency operations by the MA SEOC. The MA SEOC has computers and telephones at each station for use by staff. There was a digital map projected on to a screen in the front of the room, which was updated with current information such as wind speed, shelter in place communities, and evacuated communities was received. The screens also could have other information displayed as well such as activities and requests of emergency service functions and Emergency Planning Zones (EPZs). A video teleconference was also utilized during the exercise to communicate with Massachusetts State Emergency Operation Center Region Two. Other equipment in use included televisions for displays, printers, digital and wall clocks, webEOC, and fax machines.

Massachusetts State Emergency Operations Center is located outside the 10-mile emergency planning zone. There is no staging of emergency workers at the MA SEOC: dosimetry, monitoring equipment or KI was not inventoried during this evaluated exercise due to the MA SEOC being outside of the EPZ.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement

Criterion 2.a.1:

During the Pilgrim Nuclear Power Plant (PNPP) Radiological Emergency Preparedness Exercise conducted on Thursday, March 21, 2013, The Commonwealth of Massachusetts Emergency Management Agency (MEMA) demonstrated the capability to make decisions to ensure that an exposure control system, including use of KI, was in place for emergency workers. The demonstration was conducted in the Massachusetts Emergency Operations Center (MA SEOC) located at 400 Worcester Rd, Framingham, MA.

Pilgrim Nuclear Power Plant declared an Alert at 0825 hrs as a result of a fire or explosion observed in the salt-water service pump area. This was an Emergency Action Level (EAL) classification Number: HA2.1 and required an Alert ECL. The Alert ECL was communicated to the appropriate organizations and MA SEOC. The MA SEOC Director activated the MA SEOC at 0840. The MA SEOC was fully staffed and declared operational at 0900 hrs, and the Massachusetts Emergency Management Director (EMD) briefed the SEOC at 0903 hrs.

The ECL was increased to a Site Area Emergency (SAE) at 0944 as a result of a failure of the reactor control rods to fully insert when the reactor was manually shut down, which left the reactor operating at approximately 3% power level. This is an EAL classification SS2.1

The EMD issued a precautionary protective action directive (PAD) at about 0956 hrs to mobilize the offsite response organizations to begin a precautionary transfer of students at schools, close beaches and campgrounds, establish a 10 mile marine safety zone, and place animals on store feed, and requested a Governor's declaration of a State of Emergency. At 0956 hrs, the EMD ordered the Emergency Alert System (EAS) to activate sirens at 1012 hrs and to send an EAS message to broadcast at 1015 hrs.

The licensee's SEOC Liaison briefed the SEOC at 1050 hrs and stated that the control rods had been inserted, and that the reactor was shut down and stable. Some radioactivity had been measured in the main steam line.

The Pilgrim Nuclear Power Plant issued a General Emergency EAL at 1116 hrs based on

radiation levels observed in the drywell, and likely 2 – 3% core damage.

Based on radiation levels projected by the dose-assessment group at the emergency offsite facility (EOF), the EMD made the decision to evacuate EPZ sub-areas 1, 2, 4, 5, and 12, recommended potassium iodide for all emergency workers and institutionalized persons in the 10 mile EPZ, and members of the public in sub-areas 1, 2, 4, 5, and 12. The EAS was ordered to activate the sirens at 1141 hrs and to send an EAS message at 1144 hrs.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 2.b.1:

During the Pilgrim Nuclear Power Plant (PNPP) Radiological Emergency Preparedness Exercise conducted on Thursday, March 21, 2013, the Commonwealth of Massachusetts made appropriate protective actions decisions (PADs) based on available information on plant condition, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. The demonstration was conducted in the Massachusetts Emergency Operations Center (MA SEOC) at 400 Worcester Rd, Framingham, MA.

The EMD issued a precautionary action recommendation at 0956 to mobilize the offsite response organizations to begin a precautionary transfer of students at schools, close beaches and campgrounds, establish a 10 mile marine safety zone, and place animals on store feed, and requested a Governor's declaration of a State of Emergency.

At 0956, the EMD ordered the Emergency Alert System (EAS) to activate the sirens at 1012, and the EAS message to broadcast at 1015.

The licensee's SEOC Liaison briefed the SEOC at 1050, and stated that the control rods had inserted, the reactor was shut down and stable. Some radioactivity had been measured in the main steam line.

The Pilgrim Nuclear Power Plant issued a General Emergency EAL at 1116, based on radiation levels observed in the drywell, and likely 2 – 3% core damage.

Based on radiation levels projected by the dose-assessment group at the emergency offsite

facility (EOF), the EMD made the decision to evacuate EPZ sub-areas 1, 2, 4, 5, and 12, recommended potassium iodide for all emergency workers in the 10 mile EPZ, and members of the public in sub-areas 1, 2, 4, 5, and 12. The EAS was ordered to activate the sirens at 1141, and to send an EAS message at 1144.

The Massachusetts Emergency Management Director (EMD) developed the Protective Action Directives (PADs), based on radiation levels projected by the dose-assessment group at the emergency off-site facility (EOF), compared to the US EPA Protective Action Guides (PAGs).

The dose-assessment group's protective action recommendations were promptly transmitted from the EOF to the MA SEOC on a Massachusetts Department of Public Health MDPH Situation Report form 108. The form included meteorological conditions, plant status, and protective action recommendations.

At 1131, the EMD issued the PADs on a MEMA form 12P Pilgrim Emergency Action Directive Form.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures and extent-of-play agreement.

Criterion 2.b.2:

During the Pilgrim Nuclear Power Plant (PNPP) Radiological Emergency Preparedness Exercise conducted on Thursday, March 21, 2013, the Commonwealth of Massachusetts employed a decision-making process involving consideration of appropriate factors and necessary coordination for PADs for the general public, including the recommendation for use of potassium iodide (KI). The demonstration was conducted in the Massachusetts Emergency Management Agency (MEMA) Emergency Operations Center (MA SEOC) at 400 Worcester Rd, Framingham, MA.

Pilgrim Nuclear Power Plant declared an Alert at 0825 as a result of a fire or explosion observed in the salt-water service pump area. This was an Emergency Action Level (EAL) classification HA2.1 and required an Alert EAL. The EAL was communicated to the appropriate organizations and the MA SEOC Director activated the MA SEOC at 0840. The SEOC was fully staffed and declared operational at 0900, and the Massachusetts Emergency Management Director (EMD) briefed the SEOC at 0903.

The EAL was increased to a Site Area Emergency (SAE) at 0944 as a result of a failure of the reactor control rods to fully insert when the reactor was manually shut down, which left the reactor operating at approximately 3% power level. This is an EAL classification SS2.1 and required a SAE EAL.

The EMD issued a precautionary action recommendation at 0956 to mobilize the offsite response organizations to begin a precautionary transfer of students at schools, close beaches and campgrounds, establish a 10 mile marine safety zone, and place animals on store feed, and requested a Governor's declaration of a State of Emergency.

At 0956, the EMD ordered the Emergency Alert System (EAS) to activate the sirens at 1012, and the EAS message to broadcast at 1015.

The licensee's SEOC Liaison briefed the SEOC at 1050, and stated that the control rods had been inserted, and that the reactor was shut down and stable. Some radioactivity had been measured in the main steam line.

The Pilgrim Nuclear Power Plant issued a General Emergency EAL at 1116 based on radiation levels observed in the drywell, and likely 2 – 3% core damage.

Based on radiation levels projected by the dose-assessment group at the emergency offsite facility (EOF), the EMD with input from his Executive Staff and MEMA Region II made a Protective Action Decision (PAD) to evacuate EPZ sub-areas 1, 2, 4, 5, and 12, recommended potassium iodide (KI) for all emergency workers in the 10 mile EPZ, and recommended potassium iodide (KI) to the general public in sub-areas 1, 2, 4, 5, and 12. The sirens were activated at 1141, and the EAS message was broadcast at 1144.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures and extent-of-play agreement.

Criterion 2.c.1:

During the Pilgrim Nuclear Power Plant (PNPP) Radiological Emergency Preparedness Exercise conducted on Thursday, March 21, 2013, The Commonwealth of Massachusetts made appropriate protective action decisions (PADs) for schools. The demonstration was conducted in the Massachusetts Emergency Operations Center (SEOC) located at 400 Worcester Rd,

Framingham, MA.

The Massachusetts Emergency Management Agency (MEMA) Emergency Management Director (EMD) issued a precautionary protective action directive (PAD) at 09:55 hrs to mobilize the offsite response organizations to begin a precautionary transfer of students at schools, close beaches and campgrounds, establish a 10 mile marine safety zone, and place animals on store feed, and requested for a Governor's declaration of a State of Emergency.

At 0956 hrs, the EMD ordered the Emergency Alert System (EAS) to activate at 10:12 hrs and an EAS message to broadcast at 10:15 hrs.

Based on radiation levels projected by the dose-assessment group at the emergency offsite facility (EOF), the EMD made the decision to evacuate EPZ sub-areas 1, 2, 4, 5, and 12, recommended potassium iodide for all emergency workers in the 10 mile EPZ, and members of the public in sub-areas 1, 2, 4, 5, and 12.

There was some discussion about other special populations, like prisoners and nursing homes. The evacuation and KI PADs were assumed to apply to everybody in the designated sub-areas. No specific PAD was made for those or other special populations. Those populations would presumably be included in the general decision to evacuate or shelter-in-place. The Commonwealth doesn't have the responsibility to accomplish the evacuation, except for state-run facilities. None of the local EOCs contacted the SEOC for assistance with evacuation of anyone with special needs.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures and extent-of-play agreement.

Criterion 5.a.1:

During the March 21, 2013 Pilgrim Nuclear Power Station Exercise, the Massachusetts State Emergency Operations Center (MA SEOC) satisfactorily demonstrated the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas throughout the 10-mile plume Emergency Planning Zone (EPZ). Following the decision to activate the alert and notification system, activation of the system was accomplished in a timely manner. The initial message was transmitted following the alert signal. The alert signal was simulated and it preceded transmission (simulated) of the instructional message. All EAS

messages are pre-scripted by the Public Information Officer per the MA SEOC Pilgrim Power Station plan. The instructional message contained all of the elements required by current FEMA REP Guidance.

The first Emergency Alert by the MA SEOC was during the Site Area Emergency the state Director authorized the alert signal (sirens) at 1012 followed by the first EAS message at 1015. The communications dispatcher after the sirens were activated completed form 41P, which indicated that all sirens in the EPZ successfully sounded. This sequence was then conducted again during the second EAS message authorized by the state Director. The sirens were activated at 1141 followed the EAS message at 1144. The second EAS was during the General Emergency (GE) and included that a release of radioactive material from Pilgrim Nuclear Power Station and that evacuation of sub areas 1, 2, 4, 5, and 12, sheltering in place for sub areas 3, 6, 7, 8, 9, 10, 11. Both messages end with references to annual emergency information calendars and to stay tuned to the EAS station.

The EAS station WBZ was contacted once per the extent of play. The station verified with the Public Information Officer and his team that the an initial fax at 0910 via controller inject. All other contact with WBZ was simulated.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 5.b.1:

During the March 21, 2013 Pilgrim Nuclear Power Station Evaluated Exercise emergency information and instructions for the public and media was adequately demonstrated at Massachusetts State Emergency Operations Center (MA SEOC). Public information issued at the MA SEOC after the initial EAS was accurate, timely and consistent with Protective Action Decisions (PADs) and Emergency Classification Levels (ECLs). The information included protective action instructions detailing how to evacuate or shelter-in-place. Evacuation routes, and reception center locations were included in the information released by the MA SEOC. Information on schools, special populations and pets was provided. Public Inquiry telephone number for MASS 2-1-1 was provided. REP specific emergency information was referenced. EAS messages and supplemental emergency information were issued in a timely manner.

Follow-on EAS messages and informational messages were transmitted and distributed to radio

Station WBZ by telephone and fax, the Public Information Office verified at 1009. The initial contact with WBZ was actual; all other contact was simulated by extent of play agreement. Messages transmitted were as followed:

The first EAS message was authorized by the State Director. The public information officer's team completed fax distribution at 1024. The message contained information from the Pilgrim Nuclear Power Station that an Site Area Emergency (SAE) Emergency Classification Level (ECL) was declared at 0944, no protective action needed to be taken by the public, there was no release of radioactive material and additional information could be found in the annual emergency information calendars and to stay tuned to the EAS station.

The second EAS message was authorized by the State Director. The public information officer's team completed fax distribution at 1159. The message contained information from the Pilgrim Nuclear Power Station that the ECL had changed to a General Emergency (GE) at 1116, there was a release of radioactive material, the following subareas 1, 2, 4, 5 and 12 were directed to evacuate, subareas 3, 6, 7, 8, 9, 10 and 11 were to shelter-in-place and additional information could be found in the annual emergency information calendar and to stay tuned to the EAS station.

The MA SEOC also distributed the news releases via fax to the MA SEOC distribution list.

Press News Release Number 1, included the SAE ECL, Declaration of the Governor's State of Emergency; there was no release of radioactive material. The precautionary of transfer of children for Plymouth, Kingston, Duxbury, Carver and Governor Winslow Elementary School in Marshfield to predesignated host facilities outside of the Emergency Planning Zone (EPZ). The press release included specific information for each school and where the children could be picked up. The press release also included the closing of beaches, the United States Coast Guard clearing of Cape Cod Bay within 10 miles of Pilgrim Nuclear Power Station, farmers and dairy operators in the EPZ were to put animals on stored feed, water and to shelter them.

Press News Release Number 2, included the change in ECL to GE. The press release indicated that there had been a release from Pilgrim Nuclear Power Station and the evacuation of sub-areas 1, 2, 4, 5 and 12. The press release described in detail the parts of the EPZ communities that could potentially be affected. Also included were instructions of what evacuees should take with them, information about pets and to refer to annual calendar for evacuation routes. Sub-areas 3,

6, 7, 8, 9, 10, 11 were directed to shelter-in-place and the press release described what sheltering in place means. Potassium Iodine (KI) was recommended for sub-areas 1, 2, 4, 5, and 12, with a description of what KI is and how to take it. From those that did not take KI with them when evacuating, three KI Dispensing Sites were listed in the press release with directions.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1, 5.a.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.2 MA 211 Call Center

Criterion 1.d.1:

At the Massachusetts 2-1-1 Call Center (Mass 2-1-1), at least two communications systems were available, they operated properly, and communication links were established with appropriate locations during the Pilgrim Nuclear Power Station Evaluated Exercise on March 21, 2013. Communication capabilities were managed in support of emergency operations.

Mass 2-1-1 had multiple methods of communication available. The primary method of communicating with the Massachusetts State Emergency Operations Center (SEOC) was telephone; email and fax were available as backup systems. The primary method of communicating with the public was telephone, with the website and various social media systems, including Facebook and Twitter, also in use. The staff also monitored Web EOC constantly and announced any significant posted changes to ensure all staff had complete information. Communications systems were tested constantly through daily use 24 hours per day; no communications failures occurred during the exercise. The sophisticated telephone system in place allowed for staff to work offsite if necessary with no disruption in service.

Staff managed incoming communications very well. Calls from the public were answered

immediately, with no delays. Several real-world calls came through and staff responded appropriately and transferred calls to available staff. The Director received information from the Mass 211 representative at the SEOC via telephone and relayed the information to staff in a timely manner. An internal website allowed for staff to inform one another of new developments and keep up-to-date on any guidance.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

Equipment, maps, displays, and other supplies at the Massachusetts 2-1-1 Call Center (Mass 2-1-1) were sufficient to support emergency operations during the Pilgrim Nuclear Power Station Evaluated Exercise on March 21, 2013. This location was not required to have any dosimetry, KI, or radiological equipment.

Relevant materials were posted around the Mass 2-1-1 facility. These included copies of the Pilgrim Emergency Information Calendar and maps of the Emergency Planning Zone (EPZ) with wind direction. There was also a whiteboard that was constantly updated with Emergency Classification Level (ECL) status, protective action recommendations, and rumors.

Other equipment at Mass 2-1-1 included a backup generator, fax machine, TTY machine, television for media monitoring, radio for media monitoring, satellite radio, television displaying WebEOC significant events, computers, and printers. The facility was well-prepared in terms of equipment, and staff explained that there were multiple redundancies in most areas in case of any equipment or communications failures.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 5.b.1:

The Massachusetts 2-1-1 Call Center (Mass 2-1-1) provided accurate emergency information to the public in a timely manner during the Pilgrim Nuclear Power Station (PNPS) Evaluated Exercise on March 21, 2013.

Mass 2-1-1 received numerous calls from the public (simulated) throughout the exercise. Calls

were answered immediately, with no delays. The inquiries related to a broad range of topics, ranging from protective action recommendations to specific questions about individual situations. Staff answered the calls in accordance with the information they had received from the Massachusetts State Emergency Operations Center (MA SEOC). Information about the situation at PNPS came from the Mass 2-1-1 representative at the MA SEOC, who called the Mass 2-1-1 Director with relevant information. Staff also monitored WebEOC carefully for any new relevant information. Calls were answered in accordance with plans and procedures. Staff also informed callers to refer to their Pilgrim Emergency Information Calendars and tune in to their Emergency Alert System (EAS) stations for further information. Several real-world calls came through and staff responded appropriately and transferred calls to available staff.

Mass 2-1-1 management used the exercise as an opportunity to train and challenge new staff. After each call, the supervisor would discuss the staff's handling of the call and identify things that could be improved for next time. Through interview, staff explained that they were able to address calls in almost any language, based on their comprehensive interpretive services.

Each incoming call was logged by the staff and call topics were conveyed to the supervisor. The supervisor kept track of potential rumors on a white board. Once three calls were received on similar rumors, potential rumors were faxed to the MA SEOC for confirmation and tracking. The MA SEOC then confirmed that the rumors were not accurate.

Communication with the Joint Information Center (JIC) was accomplished through the Mass 2-1-1 representative at the MA SEOC; staff at Mass 2-1-1 did not communicate directly with the JIC, in accordance with procedures. Mass 2-1-1 did not receive inquiries from media. Through interview, they indicated they would refer media callers to the JIC per procedures. The Mass 2-1-1 explained that they would also conduct media monitoring throughout an incident. Televisions, radios, and satellite radios were on hand to monitor each type of media.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.d.1, 1.e.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.3 MA Region II EOC

Criterion 1.a.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) staff successfully demonstrated the ability to alert, notify and mobilize emergency personnel and activate facilities in a timely manner per their plans and procedures.

Upon entering the EOC facility, there was a security station setup and staffed by a MA State Trooper. Everyone that entered the facility had to show their identification, sign in, and obtain their position specific badge. The station remained staffed and secured by the officer throughout the exercise.

At 0835, the EOC received the notification of an Alert Emergency Classification Level (ECL) at the PNPS via PNPS Dedicated Notification Network (DNN). The system provided redundant methods of communicating plant status, including a dedicated landline telephone call, facsimile, and radio. The Communications Center took control of the DNN for the EOC and streamlined critical information. Per the Extent of Play Agreement, some EOC staff was pre-positioned, and some arrived in real time. The EOC was declared operational at 0845.

At 0859 the EOC Manager, the Operations Chief, and the Technological Hazards Specialist briefed the EOC staff on the situation status.

The Intelligence Officer called down via landline to the Emergency Planning Zone (EPZ) Communities and Host Communities confirming activation status. All responded and were activated except for Bridgewater Host Community. After several attempts to contact Bridgewater EOC, the Tech Hazards Specialist called his counterpart at MEMA Headquarters in Framingham and discussed using the compensatory plan for Bridgewater. At 0916 the compensatory plan was implemented.

The bus company was contacted via landline to standby for possible precautionary transfer of students. The bus company was also contacted for additional buses for standby for possible evacuation of the public. At 0956 a precautionary measure was implemented to transfer school students.

At 0952 while on a conference call with the State EOC, the State received a message of a Site Area Emergency (SAE) ECL at PNPS. Shortly thereafter, the State Emergency Management Director announced a State of Emergency at 1000. This information also came in via the State's HAAN system.

A roster was available for second shift. The MEMA controller displayed a page received indicating second shift duties.

A General Emergency was declared at 1125; this information came in via the DNN and the State HAAN. All information that came in was verified during through a telephone message, facsimile, and confirmed again with the State EOC. Redundancy was prevalent and information was confirmed for accuracy before being distributed and briefed.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) staff successfully demonstrated the ability to provide direction and control to the overall response effort for which they were responsible.

At 0859 the EOC Manager, the Operations Chief, and the Technological (Tech) Hazards Specialist briefed the EOC staff on the situation status. While updates were going on the Intelligence Officer continued calling the Emergency Planning Zone (EPZ) Communities and Host Communities confirming receipt of messages and activation status. All responded and were activated except for Bridgewater Host Community. After several attempts to contact Bridgewater EOC, the Tech Hazards Specialist called his counterpart at MEMA Headquarters in Framingham and discussed using the compensatory plan for Bridgewater. At 0916 the compensatory plan was implemented (see below).

The EOC Manager, the Operations Chief, and the Tech Hazards Specialist participated in multiple conference calls with MEMA Headquarters regarding PNPS status and State posture, and briefed their status and initiatives taken. Following the conference calls with the State, they briefed their EOC staff. In turn, all key staff including Communications, Transportation, State Police, Sheriff's Department, Radiological Officer, Special Needs, National Guard, and other agencies present gave a briefing on their status and posture.

Bridgewater Compensatory Plan: On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) staff successfully demonstrated the ability to compensate for the Bridgewater EOC functions.

During this exercise, the Bridgewater EOC was not usable due to recent flooding and on-going renovations. The extent of play provided for the MEMA Region II EOC to fill in and cover the actions usually undertaken at the local level in this location. Compensatory actions were discussed with the Technological Hazards Liaison at the MEMA Region II EOC. For the purposes of this exercise, it was assumed that all other facilities in Bridgewater were functional and participating. At 0916, MEMA Region II reported that the Bridgewater EOC was not responding and that it was implementing a compensatory plan for this facility. All actions were simulated as occurring during exercise play.

There were several copies of the Bridgewater Plan, and all implementing procedures and contact information, at the MEMA Region II office. In lieu of the local EOC, MEMA Region II staff would implement the local plan and would maintain contact and communications with host facilities in Bridgewater, such as the Adrian Tinsley Center at Bridgewater State University, Bridgewater Regional High School, and Williams Middle School. The School Superintendent would be the point of contact for the local schools, and the university the point of contact for the host facility for Carver and Kingston EPZ schools. The university also hosted the Reception Center/Monitoring and Decontamination Center for evacuees and emergency workers. Similarly, police, public works, and fire rescue services would be contacted directly at their facilities to provide support as needed for evacuees.

Bridgewater EOC staff would also be able to operate out of the MEMA Region II office, since there was sufficient space and communication equipment to accommodate them.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.d.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) demonstrated utilizing multiple communication systems that operated properly.

The primary means of communication equipment was the PNPS Dedicated Notification Network (DNN). It transmitted a telephone call and facsimile message simultaneously. The backup system was MEMA's Very High Frequency (VHF) radio, and the backup to that was the Radio Amateur Civil Emergency Service (RACES). It could transmit information in multiple layers. Communication links were established and maintained with appropriate locations and were managed in support of emergency operations. Communications checks were performed as necessary and no communication failures occurred.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) successfully demonstrated sufficient equipment and supplies to support its emergency operations.

Equipment and supplies included, but were not limited to, multiple status boards and various maps displaying the Emergency Planning Zones (EPZ). Maps were referenced throughout the exercise. The wind direction was updated on the map as the wind direction changed. The status boards were meticulously updated, keeping staff apprised of Emergency Classification Levels and current posture.

There were two trunks that contained Dosimetry Kits. One trunk was designated to the National Guard with 50 Dosimetry Kits, and the other trunk had 38 Dosimetry Kits and was designated to MEMA Region II. That inventory was changed out on January 13, 2013 and calibrated on

January 8, 2013. Next change out date is due on December 26, 2013. MEMA Region II was outside the EPZ and staff there were not required to have KI or dosimetry.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.a.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Headquarters Radiological Officer and staff successfully demonstrated the capability to issue appropriate dosimetry, KI and procedures, and to manage radiological exposure control for emergency workers.

The MEMA Region II Emergency Operations Center (EOC) was located in Bridgewater, Massachusetts which was over 20 miles from the PNPS, and therefore dosimetry and KI were not issued to personnel working in the EOC. The EOC maintained a stockpile of dosimetry, KI, and personnel monitoring equipment to supplement equipment needs in Emergency Planning Zone (EPZ) communities and for State personnel assets who may be dispatched into the EPZ from the MEMA Region II Headquarters. Dosimetry supplies were stored in two trunks. One contained supplies for 38 dosimetry packets, consisting of one CDV 138, 0-200mR low-range DRD; one model 730, 0-20R high-range DRD; one Dosimeter Life Record (DLR) thermoluminescent dosimeter; one blister pack of 14 KI tablets, one Emergency Worker (EW) Exposure Control form, and a separate back-to-back Dosimetry Instructions Briefing Sheet. The second trunk contained supplies for 50 dosimetry kits consisting of one model 862, 0-200mR low-range DRD; one model 622, 0-20R high-range DRD; one Dosimeter Life Record (DLR) thermoluminescent dosimeter; one blister pack of 14 KI tablets, one Emergency Worker (EW) Exposure Control form, and a separate back-to-back Dosimetry Instructions Briefing Sheet. The second trunk was for use by National Guard, should their personnel be deployed to support operations in the PNPS EPZ. All supplies were within acceptable calibration dates and expiration dates (for the KI).

Since the extent-of-play agreement did not require emergency workers to be dispatched into the EPZ from MEMA Region II during this exercise, there was no dosimetry and KI briefing. However, through an interview with the Radiological Officer (RO) and his assistant, it was determined that both were prepared to provide a radiological briefing to any of the EOC staff present. The briefing would consist of instructions on the use of the dosimetry equipment, such

as zeroing the DRDs, the proper use of the permanent DLR dosimeters, how and where all of the dosimeters were to be worn, how to correctly read the dosimeters, and exposure limits. Emergency workers would be instructed to fill out information at the top of the Emergency Worker (EW) Exposure Form. Additionally, the EWs would be instructed that they must read their DRDs every fifteen minutes unless otherwise directed, record their initial readings, and record any DRD reading(s) that increased above initial values. The workers would be further instructed to report readings on the 0-200mR DRD to their agency at 100mR and 175mR, and at every 1R increment thereafter from reading the 0-20R DRD. Each emergency worker would also be instructed to return the emergency worker exposure control packet to the RO at the end of the assignment, or if exposed to radiation, at the appropriate Radiological Monitoring and Decontamination Station (closest to the assignment). The RO also discussed the instructions for using KI, and indicated that emergency workers would be instructed to ingest KI only after the State Department of Health makes the recommendation to do so. This would usually occur as part of the General Emergency Protective Action Directive.

During the exercise, the RO and his assistant followed their procedures and maintained contact with the ROs in the EPZ and Host communities, state response agencies, and State parks and prisons. Contact was initially made during the Alert ECL to determine if there were any shortages of dosimetry and KI in any of these locations. At the Site Area Emergency ECL, contacts were made to insure that all EWs had been issued dosimetry, and that assignments were made for where EWs would report for monitoring and decontamination after completion of their assignments. At the General Emergency, the RO contacted all EPZ, Host, and agency ROs to insure that the KI Protective Action Decision for emergency workers in the EPZ was transmitted.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.b.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Headquarters staff successfully demonstrated the capability to implement the KI decision for institutionalized individuals and the general public.

In Massachusetts, potassium iodide (KI) tablets are pre-distributed to the general public at

specified pharmacies and through Potassium Iodide Dispensing Sites (PIDS) along main evacuation routes during an incident requiring protective response. During the exercise, the Radiological Officer (RO) at the MEMA Region II EOC contacted the ROs in the Emergency Planning Zone (EPZ) communities to ensure that supplies of KI were available to all identified institutionalized individuals. It is, however, a local responsibility for ensuring that supplies of KI are available to implement KI decisions for institutionalized persons.

A recommendation for evacuation and ingestion of KI by the public, emergency workers, and institutionalized persons in sub-areas 1 2, 4,5, and 12 was included in the Protective Action Directive (PAD) which was issued at 1128 in response to the General Emergency Emergency Classification Level (ECL) at 1116. All other sub-areas were to shelter in place. MEMA Region II contacted all EPZ and Host communities, as well as simulating contacting special institutions, concerning the evacuation, sheltering, and KI decision.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II EOC staff successfully demonstrated the ability to implement protective actions for people with disabilities and those with access/functional needs other than schools.

The Special Facilities Coordinator (SFC) and his assistants at the EOC were responsible for coordinating with the Emergency Planning Zone (EPZ) communities to ensure that special facilities populations and individuals requiring special transportation needs were provided for. The SFC worked closely with the Transportation Officer to obtain needed transportation resources to assist local communities when requested by those communities. It was the responsibility of each EPZ community to determine the needs of each of their special facilities, and access/functional needs individuals, regarding transportation resources. This included buses, ambulances, lift vans, and regular vans. Each local EOC had a special facilities officer and transportation officer. When local resources were not sufficient, then outside resources would be requested through the MEMA Region II SFC.

The SFC maintained a Master Special Facilities list for the PNPS EPZ communities. This list

was updated annually, and contained the same information as was found in each local EPZ community. Host facilities outside the EPZ were also identified for all EPZ facilities that may require evacuation. The SFC, through his support staff, contacted each of these host facilities to determine their capacity to accept nursing home and hospital patients from the EPZ.

As per their procedures, and in accordance with the extent-of-play agreement, the SFC and his Special Facility Communications staff simulated contacting the special facilities and schools in the EPZ and host facilities outside the EPZ at the Alert ECL to notify them of the plant status and to standby for further instructions. The SFC called each EPZ community to obtain transportation needs and identify resources needed from outside the EPZ. Concurrent with this activity, the Transportation Officer and his support staff of Transportation Communicators made an initial telephone call starting at 0916 to ten of the seventeen transportation companies (as per the extent of play agreement) to ascertain the availability of vehicles and drivers should they be needed to evacuate special needs and school populations. These transportation resources would be to supplement local resources if needed. All future contacts were simulated. The extent of play agreement provided for utilizing the resource needs assessment for the local EPZ communities updated in October 2012 as a default value for this exercise. Transportation Staging Areas were simulated as being staffed at 1015, and vehicles from the 17 transportation companies were dispatched to the four staging areas at 1015 (simulated).

EOC staff from Mass Department of Corrections, Bridgewater, and the Plymouth County Sheriff's Department coordinated for the possible evacuation of prison populations from MCI Bridgewater and Plymouth County Correctional Facility (PCCF). Buses would be obtained through the MBTA representative in the EOC, and evacuation would be coordinated with assistance from the Massachusetts State Police (MSP) and National Guard representatives in the EOC. At 10005 the National Guard representative simulated requesting 50 drivers to support a possible evacuation of prisoners. Similarly, at 1100 the MSP responded (simulated) to a request from PCCF for sixteen troopers to provide security and escort services for transporting of prisoners.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.2:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the

Massachusetts Emergency Management Agency (MEMA) Region II EOC staff successfully demonstrated the ability to implement protective actions for schools.

The Special Facilities Coordinator (SFC) and his assistants at the EOC were responsible for coordinating with the Emergency Planning Zone (EPZ) communities to ensure that schools and daycare facilities requiring transportation needs were provided for. The SFC worked closely with the Transportation Officer to obtain needed transportation resources to assist local communities when requested by those communities. It was the responsibility of each EPZ community to determine the transportation needs of each of their schools and daycare facilities. This included buses and other special vehicles such as lift vans. Each local EOC had a special facilities officer and transportation officer. When local resources were not sufficient, then outside resources were requested through the MEMA Region II SFC.

The SFC maintained a Master Special Facilities list for the PNPS EPZ communities. This list was updated annually, and contained the same information as is found in each local EPZ community. Host facilities outside the EPZ were also identified for all EPZ facilities that may have required evacuation. The SFC, through his support staff, would contact each of these host facilities to determine their capacity to accept school children from the EPZ schools.

As per their procedures, and in accordance with the extent-of-play agreement, the SFC and his Special Facility Communications staff simulated contacting the schools in the EPZ and host facilities outside the EPZ at the Alert Emergency Classification Level (ECL) to notify them of the plant status and to standby for further instructions. The SFC called each EPZ community to obtain transportation needs and identify resources needed from outside the EPZ. Concurrent with this activity, the Transportation Officer and his support staff of Transportation Communicators made an initial telephone call starting at 0916 to ten of the seventeen transportation companies (as per the extent of play agreement) to ascertain the availability of vehicles and drivers should they be needed to evacuate special needs and school populations. These transportation resources would be to supplement local resources if needed. All future contacts were simulated.

The extent of play agreement provided for utilizing the resource needs assessment for the local EPZ communities updated in October 2012 as a default value for this exercise. Transportation Staging Areas were simulated as being staffed at 1015, and vehicles from the 17 transportation companies were dispatched to the four staging areas at 1015 (simulated). At 0956 an Early

Precautionary Action Recommendation to relocate schools and other special facilities in the EPZ was made. Buses were simulated as being dispatched to the schools from the local transportation companies, and arriving at 1012. They were simulated as departing for the host schools at 1026. The default values provide for approximately 24,000 students from 28 schools in the EPZ being relocated to 18 host school facilities. There were 186 buses, 111 lift vans and 123 ambulances mobilized (simulated). After completing precautionary evacuations, vehicles would return to host staging areas to support a possible evacuation of special facilities.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.1:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) staff successfully demonstrated the ability to implement traffic and access control measures.

The MEMA Region II EOC was staffed with a Massachusetts State Police (MSP) Troop D representative and a representative each from Massachusetts Department of Transportation (MDOT) Districts 5 and 6. These agencies provided support for the five Emergency Planning Zone (EPZ) communities in staffing pre-identified traffic and access control points (TACP) to support evacuation, as well as providing emergency support for law enforcement and clearing or bypassing traffic impediments.

Following the Site Area Emergency Classification Level (ECL) at 0952, MSP and MDOT began mobilizing resources for staffing TACPs. Twenty-seven troopers were available from Troop D, with many others from other troops on standby if needed. Troop D had seven troopers trained as Dosimetry Control Officers, and distribution of dosimetry and KI was simulated at the Bourne, Norwell, and Middleboro Barracks at 1021. MDOT Districts 5 and 6, with over thirty locations, put their staff on standby and similarly issued dosimetry from their field locations to their staff utilizing trained staff (all simulated). As per the extent of play agreement, no resources were deployed to demonstrate traffic and access control, with all capabilities demonstrated through interview.

At 1040, with conditions reported as degrading at the plant, the MSP and MDOT were requested

to staff pre-identified traffic control posts in sub-areas 1,2,3,4,5, and 12. This would require 19 troopers, 61 cones, 96 barriers, and 2 road signs. As per their procedures, one MSP trooper would be deployed to each site, and MDOT would deposit needed equipment on side of road. The TACPs were activated when evacuation was recommended at 1125. Dosimetry readings and call-ins by MSP and MDOT emergency workers were simulated during the exercise.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.2:

On March 21, 2013, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Massachusetts Emergency Management Agency (MEMA) Region II Emergency Operations Center (EOC) staff successfully demonstrated the ability to identify and resolve impediments to evacuation.

The MEMA Region II EOC was staffed with a Massachusetts State Police (MSP) Troop D representative and a representative each from Massachusetts Department of Transportation (MDOT) Districts 5 and 6. These agencies provided support for the Emergency Planning Zone (EPZ) and Host communities in staffing pre-identified traffic and access control points to support evacuation, as well as providing emergency support for clearing and bypassing traffic impediments.

At 1142, a Controller Inject for a blockage to a main evacuation route was given to the MSP Troop D representative to resolve. The inject was for a tractor trailer to have flipped over on the exit ramp from Rt. 3 North to Rt. 44 West in the northern section of Plymouth. The exit ramp would be closed for several hours until the trailer could be cleared. MSP and MDOT decided that the best option would be to divert all traffic on Rt. 3 North trying to exit on 44 W (Exit 7) to Smith's Lane (Exit 8), then re-route traffic southbound on Rt. 3 South back to the southbound exit for Rt. 44 West, which was not blocked. This would take 3 additional traffic control points to put into effect. Resources were simulated as being dispatched to implement this plan at 1200. It was coordinated with the City of Plymouth Police Department and reported up the chain of command through MSP channels to the SEOC and the JIC.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 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.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.4 MA (PNPS) Emergency Operations Facility

Criterion 1.a.1:

State of Massachusetts (MA) personnel from the MA Department of Public Health Radiation Control Program (MDPH-RCP) and the MA Emergency Management Agency (MEMA) supported the Pilgrim Nuclear Power Station (PNPS) exercise on March 21, 2013.

Representatives from these organizations reported to the utility Emergency Operations Facility (EOF) located near Plymouth, MA, including: MDPH-RCP Director, MDPH Field Team Coordinator (FTC), MDPH Radio Operator (RO), MDPH Dose Assessment Coordinator (DAC), MEMA EOF Liaison, MEMA EOF Liaison Assistant, and MEMA Communicator. In addition, there were two observers, one from MDPH and one from MEMA.

At 0830, the PNPS communicator notified the MEMA 24-hour warning point, located in Framingham, MA, of an Alert emergency classification level (ECL). At 0837, the MEMA 24-hour warning point notified the MDPH-RCP Director and MEMA EOF Liaison that an Alert ECL had been declared at PNPS. Upon receiving the call, the MDPH-RCP Director called the PNPS control room at 0838 to verify the notification and to receive current plant and meteorological status information per the Commonwealth of MA Radiological Emergency Response Plan (RERP) Section 6.2.2. Subsequent notification calls, per the Nuclear Incident Advisory Team (NIAT) Handbook, Appendix A, were then made 0845 to the FTC, RO, DAC, and Field Monitoring Teams (FMTs) to respond to the EOF. The State response function at the EOF was fully staffed and operational at 0905.

In accordance with the extent-of-play agreement, MDPH and MEMA personnel were pre-positioned in the area of the EOF awaiting notification. Once notified, they were to use a 10-minute/hour of normal travel time to respond to the EOF.

Subsequent ECL notifications were received within the EOF. The Site Area Emergency ECL notification was issued at 0945, and the General Emergency ECL was at 1116. The MDPH-RPC Director and FTC promptly entered ECL changes on the Chronology of Key Events form.

A duty roster was not completed; however, by interview with the MDPH-RPC Director, he referenced the MEMA 24-hour Operations Schedule and NIAT Handbook Appendix A and described the process of developing a duty roster for the following State positions at the EOF: MDPH-RPC Director, FTC, DAC, and MEMA EOF Liaison. Sufficient personnel were available for two independent shifts. The interview indicated he was aware of the process and resources available.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

During the Commonwealth of Massachusetts and Pilgrim Nuclear Power Station FEMA Evaluated Plume Exercise on Thursday, March 21, 2013, the Massachusetts Department of Public Health Radiation Control Program (MDPH-RCP) Director at the Emergency Operations Facility (EOF) provided direction and control to that part of the overall response effort for which he was responsible.

The MDPH-RCP Director issued guidance and provided information to the Field Team Coordinator and the Dose Assessment Coordinator at the EOF. He also made timely protective action recommendations to the State decision makers at the Emergency Operations Center (EOC), including the use of potassium iodide by emergency workers and members of the public.

The layout of the EOF made the Field Team Coordinator and the Dose Assessment Coordinator easily accessible to the MDPH-RPC Director. He met with these individuals often, as needed, throughout the exercise. The MDPH-RCP Director discussed the situation with these individuals and issued direction on mission assignment of Field Teams and assumptions used in the modeling to achieve very timely and appropriate dose assessment.

Through management of MDPH personnel and coordination with licensee personnel and the Massachusetts Emergency Management Agency (MEMA) Liaison at the EOF, the MDPH-RCP

Director was able to assess changes in the situation and issue protective action recommendations with a turnaround time of less than five minutes.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.d.1:

State of Massachusetts (MA) personnel from the MA Department of Public Health Radiation Control Program (MDPH-RCP) and the MA Emergency Management Agency (MEMA) supported the Pilgrim Nuclear Power Station (PNPS) exercise on March 21, 2013.

Representatives from these organizations, as part of the Nuclear Incident Advisory Team (NIAT), reported to the utility Emergency Operations Facility (EOF) located near Plymouth, MA.

The MDPH-RCP Director and MEMA EOF Liaison used landline telephones as the primary means of communication with the State Emergency Operations Center (State EOC). Cellular phones were available as backup communications. The MEMA Communicator used a facsimile machine to send/receive information to/from the State EOC.

The primary means of communication within the EOF between the MDPH, MEMA, and utility EOF staff was direct verbal contact. Updates to emergency classification levels (ECLs) were communicated verbally among response staff, and by the utility via the EOF public address system.

A NIAT Motorola MCS 2000 base station radio was available for the Field Team Coordinator (FTC) and Radio Operator (RO) to communicate with the Field Monitoring Teams (FMTs). Radio and phone communications checks were successfully conducted with FMT1 at 0945 and FMT2 at 0951.

All landlines, cellular phones, and the radio system were fully functional throughout the exercise. The MDPH and MEMA staff managed available communication systems, ensuring that necessary communications with the State EOC and the FMTs were made without undue delay and did not disrupt the conduct of emergency operations.

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

State of Massachusetts (MA) personnel from the MA Department of Public Health Radiation Control Program (MDPH-RCP) and the MA Emergency Management Agency (MEMA) supported the Pilgrim Nuclear Power Station (PNPS) exercise on March 21, 2013. Representatives from these organizations, as part of the Nuclear Incident Advisory Team (NIAT), reported to the utility Emergency Operations Facility (EOF) located near Plymouth, MA.

The EOF is located within the 10-mile Emergency Planning Zone (EPZ), approximately 4.5 miles from PNPS. The EOF is a hardened facility with concrete walls and a filtered ventilation system.

The MDPH and MEMA personnel were adequately equipped and supplied to enable emergency response personnel to perform their dose assessment functions.

The MDPH and MEMA personnel responded to the EOF with their own dosimetry and potassium iodide (KI) tablets. The Direct-Reading Dosimeters (DRDs) included one CD V-138 (0-200 mR) and one CD V-730 (0-20R). All DRDs were within calibration, with the next calibration due in August 2012. Optically Stimulated Luminescence (OSL) dosimeters were used as permanent record dosimetry. The OSLs were issued January 15, 2013, on a quarterly schedule. The KI tablets were within their expiration date of February 2014.

Additional equipment and supplies included:

- Motorola MCS 2000 base radio - to communicate with Field Monitoring Teams (FMTs)
- (5) Inmarsat (ISAT) mobile phones - owned by utility, but available for FMTs, as needed
- 5-mile Emergency Planning Zone (EPZ) map
- (2) 10-mile EPZ maps
- 50-mile Ingestion Pathway Zone (IPZ) map
- Protective Action Recommendations Process Chart
- Subsequent Protective Action Recommendations Guidance Chart
- White Board
- (2) Flip Charts

- HP Color Laserjet 3600 printer
- (2) Brother printers
- Dell desktop computer - for running RASCAL 4.1
- (2) Optiplex 740 desktop computers - for running RASCAL 4.1
- NIAT Handbook
- Metro Boston/Eastern Massachusetts Street Atlas - for directing FMTs
- Digital Clock
- Wall-mounted television - for monitoring Weather Channel
- Wall-mounted television - for monitoring EOF updates
- (2) Wall-mounted Visio flat screen televisions - for displaying plant data
- (2) Overhead projectors and projection screens - one for displaying FMT data and one for displaying plant data
- Process Radiation Monitor and Met Data white board - not used since this information was electronically displayed on televisions and on a projection screen via overhead projector
- Landline telephones - for MDPH-RPC Director, MEMA EOF Liaison, MEMA Communicator, field Team Coordinator (FTC), Radio Operator (RO), and Dose Assessment Coordinator (DAC)
- Sufficient office materials and supplies.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 2.a.1:

During the Commonwealth of Massachusetts and Pilgrim Nuclear Power Station (PNPS) FEMA Evaluated Plume Exercise on Thursday, March 21, 2013, the Massachusetts Department of Public Health Radiation Control Program (MDPH-RCP) Director at the Emergency Operations Facility (EOF) made appropriate protective action recommendations (PARs) based on available information on plant conditions, field monitoring data, and licensee and MDPH dose projections, as well as knowledge of onsite and offsite environmental conditions.

The MDPH-RCP Director used information and PARs from the Licensee, models produced by the Dose Assessment Coordinator (DAC), and data provided by the Field Team Coordinator (FTC) to make PARs to the decision makers at the State Emergency Operations Center (State EOC).

At 0945, the MDPH-RCP Director was notified that PNPS had declared a Site Area Emergency

(SAE). Based upon the Massachusetts Radiation Emergency Response Plan, the MDPH-RCP Director issued a recommendation to the Massachusetts Emergency Management Agency (MEMA) EOF Liaison at 0956, to take Early Precautionary Actions; specifically to transfer school children, close parks and beaches, and place dairy animals on stored feed and water within the 10-mile Emergency Planning Zone (EPZ).

The DAC ran several models using RASCAL 4.2, predicting off-site doses in the event of certain barrier failures. Based upon current and forecast weather, these models all predicted impact to the areas south of the plant. At 1135, the DAC produced a model based upon an apparent stack release and predictions based upon plant shutdown time and other parameters. This model predicted protective action guides (PAGs) would be exceeded at a distance of approximately 1.5 miles from the plant. Both the DAC and the Licensee dose assessor assumed that standby gas treatment was being bypassed and modeled the release as unfiltered. These models were almost identical. Both modelers realized later that standby gas treatment was effective. At 1226, the DAC ran a model using a filtered release that predicted that no PAGs would be exceeded off-site. This model also closely matched that of the Licensee dose assessor.

At 1116, the MDPH-RCP Director was notified that PNPS had declared a General Emergency (GE). Based upon recommendations from the Licensee and earlier predictive models from the DAC, the MDPH-RCP Director issued a PAR to the MEMA EOF Liaison at 1126, recommending evacuation of zones 1, 2, and 12 and sheltering in all other zones within the 10-mile EPZ. The PAR also recommended use of potassium iodide (KI) by the public and emergency workers in zones 1, 2, 5, and 12.

At 1140, the MDPH-RCP Director issued an updated PAR to the MEMA Liaison recommending evacuation also include zone 5. All other recommendations were the same as those communicated at 1126.

The MDPH-RCP Director reviewed the models produced by the DAC and data collected by the field monitoring teams to further define the extent and concentration of the plume. All data collected and analyzed verified that the protective action decisions (PADs) made by the State EOC were adequate and that no further PARs were necessary.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 2.b.1:

During the Commonwealth of Massachusetts and Pilgrim Nuclear Power Station (PNPS) FEMA Evaluated Plume Exercise on Thursday, March 21, 2013, the Massachusetts Department of Public Health Radiation Control Program (MDPH-RCP) Director at the Emergency Operations Facility (EOF) made appropriate protective action recommendations (PARs) based on available information on plant conditions, field monitoring data, and licensee and MDPH dose projections, as well as knowledge of onsite and offsite environmental conditions.

The MDPH-RCP Director used information and PARs from the Licensee, models produced by the Dose Assessment Coordinator (DAC), and data provided by the Field Team Coordinator (FTC) to make PARs to the decision makers at the State Emergency Operations Center (State EOC).

At 0945, the MDPH-RCP Director was notified that PNPS had declared a Site Area Emergency (SAE). Based upon the Massachusetts Radiation Emergency Response Plan, the MDPH-RCP Director issued a recommendation to the Massachusetts Emergency Management Agency (MEMA) EOF Liaison at 0956, to take Early Precautionary Actions; specifically to transfer school children, close parks and beaches, and place dairy animals on stored feed and water within the 10-mile Emergency Planning Zone (EPZ).

The DAC ran several models using RASCAL 4.2, predicting off-site doses in the event of certain barrier failures. Based upon current and forecast weather, these models all predicted impact to the areas south of the plant. At 1135, the DAC produced a model based upon an apparent stack release and predictions based upon plant shutdown time and other parameters. This model predicted protective action guides (PAGs) would be exceeded at a distance of approximately 1.5 miles from the plant. Both the DAC and the Licensee dose assessor assumed that standby gas treatment was being bypassed and modeled the release as unfiltered. These models were almost identical. Both modelers realized later that standby gas treatment was effective. At 1226, the DAC ran a model using a filtered release that predicted that no PAGs would be exceeded off-site. This model also closely matched that of the Licensee dose assessor. All State dose projections were within a factor of 10 of utility dose projections. The DAC also provided a zone map with each model and a plume plot indicating where PAGs were projected to be exceeded.

At 1116, the MDPH-RCP Director was notified that PNPS had declared a General Emergency

(GE). Based upon recommendations from the Licensee and earlier predictive models from the DAC, the MDPH-RCP Director issued a PAR to the MEMA Liaison at 1126, recommending evacuation of zones 1, 2, and 12 and sheltering in all other zones within the 10-mile EPZ. The PAR also recommended use of potassium iodide (KI) by the public and emergency workers in zones 1, 2, 5, and 12.

At 1140, the MDPH-RCP Director issued an updated PAR to the MEMA EOF Liaison recommending evacuation also include zone 5. All other recommendations were the same as those communicated at 1126.

The MDPH-RCP Director reviewed the models produced by the DAC and data collected by the field monitoring teams to further define the extent and concentration of the plume. All data collected and analyzed verified that the protective action decisions (PADs) made by the State EOC were adequate and that no further PARs were necessary.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 2.b.2:

During the Commonwealth of Massachusetts and Pilgrim Nuclear Power Station (PNPS) FEMA Evaluated Plume Exercise on Thursday, March 21, 2013, the Massachusetts Department of Public Health Radiation Control Program (MDPH-RPC) and the Massachusetts Emergency Management Agency (MEMA) used a decision-making process involving consideration of appropriate factors and necessary coordination to make Protective action decisions (PADs) for the general public, including the recommendation for the use of potassium iodide (KI).

As described in criterion 2.b.1, the MDPH-RCP Director used information and Protective Action Recommendations (PARs) from the Licensee, models produced by the Dose Assessment Coordinator (DAC), and data provided by the Field Team Coordinator (FTC) to develop PARs to provide to the decision makers at the State Emergency Operations Center (State EOC). The Commissioner of Public Health was the decision maker for recommending use of potassium iodide (KI) by members of the public and emergency workers and the MEMA Director was the decision maker for all other protective actions.

At 0956, the MDPH-RCP Director made the recommendation to take Early Precautionary

Actions; specifically to transfer school children, close parks and beaches, and place dairy animals on stored feed and water within the 10-mile Emergency Planning Zone (EPZ). This PAR was transmitted to MDPH and MEMA decision makers at the State EOC. The State EOC issued precautionary PADs almost immediately that matched the recommendations by the MDPH-RCP Director.

At 1126, the MDPH-RCP Director made a PAR to evacuate zones 1, 2, and 12 and shelter the public in all other zones within the 10-mile EPZ. The PAR also recommended use of KI by the public and emergency workers in zones 1, 2, 5, and 12. At 1140, the MDPH-RCP Director issued an updated PAR recommending evacuation also include zone 5. All other recommendations were the same as those communicated at 1126.

MDPH and MEMA decision makers at the State EOC considered the PARs made by the MDPH-RCP Director and issued a PAD at 1129. This PAD directed evacuation of sub-areas 1, 2, 4, 5, and 12 and sheltering of all other sub-areas within the 10-mile EPZ. This PAD also recommended use of KI for the public and institutionalized individuals in sub-areas 1, 2, 4, 5, and 12 and for all EPZ emergency workers. The decision makers' choice to make a more conservative PAD was apparently based on evacuation time estimates and/or challenges associated with the additional sub-area.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.a.1:

State of Massachusetts (MA) personnel from the MA Department of Public Health Radiation Control Program (MDPH-RCP) and the MA Emergency Management Agency (MEMA) supported the Pilgrim Nuclear Power Station (PNPS) exercise on March 21, 2013. Representatives from these organizations, as part of the Nuclear Incident Advisory Team (NIAT), reported to the utility Emergency Operations Facility (EOF) located near Plymouth, MA.

The Field Team Coordinator (FTC) and Radio Operator (RO) managed exposure control for Field Monitoring Teams (FMTs), including the administration of potassium iodide (KI).

Following the FMTs inventory and operational checks at their staging area at the utility

Emergency Operations Facility (EOF), the FTC provided their initial briefing at 1000. In accordance with NIAT Handbook, Plume Phase Field Team Briefing Form, the briefing included: Site Area Emergency Classification Level (ECL) declared at 0944; plant status - radiation levels increasing in-plant; no radiological release in progress; current wind direction from 341 degrees; current wind speed at 1.5 miles per hour; ensure equipment checks are completed before dispatch; turn-back level of 500 mR/hour; reporting levels of 100 mR, 175 mR, and at 1R increments; ensure FMTs had prescribed Direct Reading Dosimeters (DRDs) and Optically Stimulated Luminescence (OSL) dosimeters; directions to call in every 15 minutes; initial FMT dispatch locations and to pull a full sample set and conduct operational checks at assigned location; focus on safety - speed limit, seat belts; and that communications checks would be completed after dispatch. The briefing concluded at 1003.

At 1024, the FTC directed the RO to provide the FMTs with additional briefing information via radio, including: ingest potassium iodide (KI) only when directed by the MDPH-RPC Director; read DRDs every 15 minutes unless otherwise directed, and record any readings above initial values on the Dose Tracking Form; when a release is in progress, close all vehicle windows and doors as much as possible to reduce contamination, and use recirculation or turn off heat/air conditioning system; observe contamination control practices and change disposable gloves frequently; use 3-way communication when talking on the radio or phone; if you lose communication with the EOF and other FMT, retreat to a safe area and contact the FTC; if the radio fails, contact the EOF by phone to receive portable radios. This information was developed by the FTC, and self-identified as a possible inclusion on the Plume Phase Field Team Briefing Form.

Recommendation: Include the additional briefing information developed by the FTC into the formal Plume Phase Field Team Briefing Form.

The DRDs provided (0-200mR and 0-20 R) were adequate to measure the prescribed exposure reporting limits of 100 mR, 175 mR, and 1R increments, the turn-back limit of 500 mR/hour, and 5 Rem maximum Total Effective Dose Equivalent (TEDE) limit. The default dosimeter correction factor was five.

By interview, the MDPH-RPC Director explained that the State utilizes a Committed Dose Equivalent (CDE) to Total Effective Dose Equivalent (TEDE) conversion factor of five at the onset of an emergency response that reflects the stated maximum, turn-back, and call-back

limits. According to the MDPH-RPC Director, if the actual radiological release mixture is determined, the conversion factor can be modified and dose limits adjusted as needed or as practical. Since the conversion factor is built into the existing dose limits, there is no need for an exposure extension. As needed, however, the MDPH Commissioner, or designee, has the authority to exceed the maximum TEDE limit (per NIAT Handbook Section D.9).

At 1125, the MDHP-RPC Director, in concurrence with MDPH at the State EOC, made the decision for emergency workers to take KI. At 1125, the RO informed both FMTs to administer KI. At 1128, both FMTs confirmed with the RO that KI had been taken. The RO immediately informed the FTC and MDPH-RPC Director that both teams had taken KI.

The FTC and RO provided adequate exposure control for the FMTs. Per NIAT Handbook, Section D.4, 4.0 [8] (b), utility FMTs locate plume centerline, and State FMTs locate plume boundaries as determined by a >1.0 mR/hour closed window, waist level reading. As such, this practice provided adequate exposure control for State FMTs. Further, the FTC and RO remained cognizant of FMTs locations such that they were always dispatched to main roads, and not dead end roads where they may otherwise be “trapped” by the plume.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 4.a.2:

State of Massachusetts (MA) personnel from the MA Department of Public Health Radiation Control Program (MDPH-RCP) and the MA Emergency Management Agency (MEMA) supported the Pilgrim Nuclear Power Station (PNPS) exercise on March 21, 2013.

Representatives from these organizations, as part of the Nuclear Incident Advisory Team (NIAT), reported to the utility Emergency Operations Facility (EOF) located near Plymouth, MA.

The Field Team Coordinator (FTC) effectively managed Field Monitoring Teams (FMTs) to locate and characterize the radiological release. The FTC coordinated with the utility FTC to optimize FMTs in the field. Per NIAT Handbook, Section D.4, 4.0 [8] (b), utility FMTs locate plume centerline, and State FMTs locate plume boundaries as determined by a >1.0 mR/hour closed window, waist level reading.

The FTC and Radio Operator (RO) both utilized the Massachusetts Chronological Events Log to enter key information throughout the exercise. The FTC utilized the Plume Phase Briefing Form for the initial FMT briefing, as well as subsequent instructions to the FMTs. Additionally, the RO used the Field Team Coordinator Survey/Air Sample Calculation Worksheet to log FMT survey and air sample data, after which the FTC used the same worksheet for air sample calculations.

At 0909 the FTC contacted the utility FTC to coordinate the utilization of State and utility FMTs. In general, the agreement was that utility teams would traverse areas near PNPS, and that State teams would monitor further out, resulting in the utility teams monitoring in higher dose rate areas. The two FTCs agreed that the State teams would be initially dispatched to traverse areas approximately 2 miles downwind and 5 miles downwind of PNPS.

At 1000, the FTC conducted the pre-deployment briefing for the FMTs at the EOF. The FTC dispatched FMT1 to State Road and Bartlett Road (about 2 miles from PNPS), found on map sector F17, page 189 and to pull a full sample set and conduct operability checks. The FTC dispatched FMT2 to Route 3 and Clarke Road (about 5 miles from PNPS), found on map sector J14, page 191 and to pull a full sample set and conduct operability checks.

At 1023, FMT2 informed the RO that they had arrived at their dispatch location. Per the FTC, the RO directed FMT2 to begin a full sample set. At 1035, FMT1 informed the RO that they had arrived at their initial dispatch location. Per the FTC, the RO directed FMT1 to begin a full sample set.

At 1052, FMT2 called in survey results and air sample data. The RO transposed the data onto the FTC Survey/Air Sample Calculation Worksheet. The open and closed window readings at waist level and at 2-inches from the ground were at natural background levels. The FTC completed the air sample calculations using the air sample calculations at the bottom of the worksheet, with results of 0 uCi/cm³ particulate and 0 Rem/hr Committed Dose Equivalent (CDE).

At 1112, FMT1 called in survey results and air sample data. The RO transposed the data onto the FTC Survey/Air Sample Calculation Worksheet. The open and closed window readings at waist level and at 2-inches from the ground were at natural background levels. The FTC completed the air sample calculations using the air sample calculations at the bottom of the

worksheet, with results of 0 uCi/cm³ particulate and 0 Rem/hr CDE.

At 1131 and 1132, the RO notified FMT1 and FMT2, respectively, that a General Emergency Classification Level (ECL) had been declared at 1116, and that a release was in progress with wind direction from 355 degrees and wind speed of 8 miles per hour.

At 1133, the FTC directed the RO to redirect FMT1 to traverse from their current location (State Road and Bartlett Road) to Rocky Hill Road, shown on map sector 13D, page 189, and to monitor en route. Upon encountering an elevated reading (indicating the plume edge), pull a full sample set. Then, move to a safe location to report readings. The FMT was also directed to don full anti-contamination clothing.

At 1135, the FTC directed the RO to redirect FMT2 to traverse from their current location (Route 3 and Clark Road) to Hedges Pond Road, shown on map sector 17N, page 191, and to monitor en route. Upon encountering an elevated reading (indicating the plume edge), pull a full sample set. Then, move to a safe location to report readings. The FMT was also directed to don full anti-contamination clothing.

At 1150, FMT1 notified the RO that they were at the plume edge at Route 3 and Powder Hill Road. Per the FTC, the RO directed FMT1 to take a full sample set.

At 1157, FMT2 notified the RO that they had not encountered elevated readings.

At 1225, FMT1 called in survey results and air sample data. The RO transposed the data onto the FTC Survey/Air Sample Calculation Worksheet. The open window readings at waist level and 2-inches from the ground were both 40 mR/hr. The closed window readings at waist level and at 2-inches from the ground were both 15 mR/hr. Plume immersion was indicated since the open window readings were significantly greater than the closed window readings. The FTC completed the air sample calculations using the air sample calculations at the bottom of the worksheet, with results of 6.15E-19 uCi/cm³ particulate and 0.14 Rem/hr CDE.

At 1229, FMT2 notified the RO that they were at the plume edge at Route 3 and Hedges Pond Road. Per the FTC, the RO directed FMT2 to take a full sample set.

At 1250, FMT2 called in survey results and air sample data. The RO transposed the data onto

the FTC Survey/Air Sample Calculation Worksheet. The open and closed window readings at waist level and at 2-inches from the ground were at natural background levels. The FTC completed the air sample calculations using the air sample calculations at the bottom of the worksheet, with results of 0 uCi/cm³ particulate and 0 Rem/hr CDE.

The exercise terminated at 1300. The RO notified the FMTs of exercise termination at 1303.

The FTC used the NIAT Handbook, Section D.4 throughout the exercise to effectively manage the FMTs to locate and characterize the plume. Ambient field measurements and air sample data were routinely logged, and the FTC routinely communicated field readings and air sample results to the MDPH-RPC Director, Dose Assessment Coordinator, and utility FTC, and kept the FMTs up-to-date, via the RO, on pertinent information throughout the exercise.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 3.a.1, 4.a.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.5 MA (PNPS) Field Monitoring Team-1

Criterion 1.a.1:

On March 21, 2013, during a plume exercise for the Pilgrim Nuclear Power Station (PNPS), the State of Massachusetts successfully demonstrated the ability to notify and mobilize State Field Monitoring Team (FMT) 1. By procedure, Nuclear Incident Advisory Team (NIAT) FMTs are comprised of two team members: a team leader and a team member. For this exercise, both team members were employees of the Massachusetts Department of Public Health, Radiation Control Program. By extent-of-play agreement, teams were pre-positioned in the area. Once they were notified to report, they were to use a compressed time: 10 minutes per hour of normal response time.

At 0846, FMT-1 team members received notification on their cellular phones, including a text message, that an Alert Emergency Classification Level had been declared by PNPS and to report to the Pilgrim Emergency Operation Facility (EOF). At 0902, team members began arriving at the EOF and immediately began equipment checks in preparation to deploy. At 1000, the Field Team Coordinator conducted a briefing and informed FMT-1 that a Site Area Emergency ECL had been declared by the PNPS at 0944. At 1015, FMT-1 left the EOF. At 1132, FMT-1 was notified by radio that a General Emergency ECL had been declared by the PNPS at 1116.

All activities described in the demonstration criteria were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 1.d.1:

On March 21, 2013, the State of Massachusetts successfully demonstrated the ability to make two means of communications available to Field Monitoring Team (FMT) 1. FMT-1 successfully demonstrated the ability to establish and maintain communications with the Radio Operator (RO) at the Emergency Operations Facility (EOF).

Prior to deployment, FMT-1 was issued a hand-held radio and a cellular telephone. The hand-held radio, which was labeled NIAT-4, served as the primary method of communication between FMT-1 and the RO in the EOF. The pre-issued cellular phone served as the backup method of communication. In addition, both team members carried personal cellular phones which could serve as additional backups should they be needed.

At 0945, FMT-1 successfully performed communication checks using the NIAT radio to speak with the EOF and FMT-2 using the MEMA South frequency. Similar communication checks were also successfully demonstrated using the pre-issued cellular phone.

During the exercise, the hand-held radio was exclusively used by FMT-1 to communicate with the EOF. This radio worked properly during the exercise and the use of backup communication was not necessary. As required by procedures, FMT-1 communicated with the EOF every 15 minutes. There were no apparent delays caused by the use of any communication equipment.

All activities described in the demonstration criteria were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 1.e.1:

On March 21, 2013 the State of Massachusetts successfully demonstrated the ability to provide Field Monitoring Team (FMT) 1 with a sufficient amount of equipment, including maps, monitoring instruments, dosimetry and potassium iodide (KI).

When FMT-1 arrived at the Plymouth Emergency Operations Facility (EOF), they immediately obtained Plume Phase Kit 1 from the storage area. Plume Phase Kit 1 consisted of: a mobile tote kit; radiation monitoring instruments and air sampler; and a duffle bag containing protective clothing. As per procedure, an inventory was not completed on the mobile tote because it had its tamper seal intact. The mobile tote kit contained generic supplies, such as pens, markers, flashlights, batteries, spare fuses, etc. The kit included many supplies that were essential for field monitoring such as tweezers, zip-loc bags, Whirl-Paks, particulate filters and smears. The kit also had a map book which indicated field monitoring points. This book was used by FMT-1 to locate points for assigned monitoring and air sampling. Although only plastic gloves were used during the exercise, one field monitoring team member described the contents and use of the protective clothing in the duffle bag.

Monitoring Instruments included CD V-718A and Ludlum 14C survey meters. The use of these instruments provided the team with the ability to measure gamma exposure rates and to detect beta radiation. Based on a inspection of calibration labels, the CD V-718A instruments are both due for calibration in August 2013. All instruments were inspected, inventoried and operationally checked prior to use. The FMT-1 used their Field Team Deployment Checklist to conduct the instrument checks and to document the results. The CD V-718A was source checked using the radioactive source that is found inside the kit. The source check result (142 mR/hr) satisfactorily met the acceptance range posted on the Kit 1 Box (131-160 mR/hr). A background reading was taken with this instrument (0.015mR/hr) and the probe was covered with a plastic bag. The Ludlum 14C was also successfully source checked using the Cs-137 check source (1 uCi) on the side of the instrument (#201: dated January 2007). The source check result (5,200 cpm) satisfactorily met the acceptance range posted on the Kit 1 Box (4,000-6,000 cpm). The instrument probe was also covered with plastic prior to use. The H 809C air sampler was also operationally checked satisfactorily. It had a calibration due date of July 20, 2013.

FMT-1 arrived at the Plymouth EOF with their dosimeters which had been pre-issued. The pre-

issued dosimetry consisted of an Arrow Tech CD V-138 low-range Direct-Reading Dosimeter (DRD) with a range of 0-200 mR and a calibration date of August 17, 2012 (due August 2013) and an Arrow Tech CD V-730 high-range DRD with a range of 0-20 R and the same calibration date. The range of their dosimetry provided the team with the ability to detect all applicable exposure limits. In addition, each team member was issued a Landauer Luxel Permanent Record Dosimeter (PRD) which serves as a Dosimeter of Legal Record (DLR). The PRDs are issued quarterly, with the last issue date of January 15, 2013.

As per the extent-of-play agreement, potassium iodide (KI) was not issued for this exercise. A Plume Equipment Inventory form (completed March 19, 2013) was reviewed and it indicated that KI, which is stored separately, has an expiration date of February 2014.

All activities described in the demonstration criteria were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 3.a.1:

On March 21, 2013, during a plume exercise for the Pilgrim Nuclear Power Station (PNPS), the State of Massachusetts successfully demonstrated the ability to provide Field Monitoring Team (FMT) 1 with appropriate dosimetry and to manage radiological exposure to the team. In addition, the team members demonstrated the ability to read and record their dosimeter readings. The team also demonstrated the ability to take (ingest) potassium iodide (KI) and to properly record the ingestion of KI. FMT-1 was dispatched by the Field Team Coordinator (FTC).

The FMT-1 arrived at the Plymouth Emergency Operations Facility (EOF) with their dosimeters which had been pre-issued. The pre-issued dosimetry consisted of an Arrow Tech CD V-138 low-range Direct-Reading Dosimeter (DRD) with a range of 0-200 mR and a calibration date of August 17, 2012 (due August 2013) and an Arrow Tech CD V-730 high-range DRD with a range of 0-20R and the same calibration date. The range of their dosimetry provided the team with the ability to detect all applicable reporting limits. In addition, each team member was issued a Landauer Luxel Permanent Record Dosimeter which serves as a Dosimeter of Legal Record (DLR). The PRDs are issued quarterly, with the last issue date of January 15, 2013. All dosimetry was hung on a lanyard and placed together between the waist and shoulders.

Information regarding the proper use of dosimeters was available to the team in their procedures, which were referred to frequently during the exercise. At 1000, FMT 1 was given a briefing

which was conducted by the FTC. He reviewed the radiation protection turnback value of 500 mR/hr. Immediately following the briefing, team members were questioned and were found to be knowledgeable regarding: the turnback value; the need to read and report dosimeter readings every 15 minutes; the reporting levels of 100 mR and 175 mR; the 1 R exposure limit and how a factor of 5 is used as a dosimeter correction factor to calculate TEDE which includes internal exposure. At 1059, the team received an additional briefing by radio from the EOF. The briefing was essentially a reminder to read dosimeters every 15 minutes and another reinforcement of the exposure, reporting, and turnback values.

During the exercise, dosimeters were read every 15 minutes. When radiation above background was encountered, dosimeter readings for FMT-1 were reported to the EOF each 15 minutes and were then recorded on the Emergency Worker DRD Log. Initial and final dosimeter readings were also recorded on the Emergency Worker Exposure Form.

As per the extent-of-play agreement, potassium iodide (KI) was not issued for this exercise. Prior to leaving the Plymouth EOF, FMT-1 was questioned and found to be knowledgeable regarding what KI is, what it does, and when to take it. At 1059, while in the field, the team received a radio briefing from the EOF that reinforced the need to take KI at the General Emergency (GE) Emergency Classification Level as directed by the Massachusetts Department of Public Health Radiation Control Program (MDPH-RPC) Director. At 1127, FMT-1 was notified by radio that the MDPH-RPC Director had authorized the use of KI. Both team members then: simulated taking one-130 mg tablet; recorded this action on the Emergency Worker Exposure Form; and notified the EOF that they had done so.

All activities described in the demonstration criteria were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 4.a.3:

On March 21, 2013, during a plume exercise for the Pilgrim Nuclear Power Station (PNPS), the State of Massachusetts Field Monitoring Team (FMT) 1 successfully demonstrated the ability to take and record ambient radiation readings. The team also demonstrated the ability to obtain two air samples and to move to a low background area and determine the amount of radioactivity collected on the samples. For this exercise, both team members were members of the Massachusetts Department of Public Health, Radiation Control Program (MDPH RCP).

State of Massachusetts Field Monitoring Teams do not go to the plume centerline, but instead find the plume edges. By procedure, field monitoring teams are required to find an area with least 1.0 mR/hr and then take open and closed window readings at waist and ground (2') levels to verify that they are in the plume. Significantly higher (at least two times higher) open window readings at both levels indicate that beta radiation is present and the teams are in the plume. To verify that the plume has not shifted during sampling, open and closed window readings are taken at waist level before, during and after air sampling.

Prior to deployment, FMT-1 inspected, inventoried and operationally checked all radiological monitoring equipment. In addition, the team checked the operability of their H 809C air sampler by installing a sample head (with particulate filter rough side facing out and the arrow on the charcoal cartridge facing in the correct direction) and running the air sampler using their car battery. Flow was observed at 0.8-0.9 cfm.

Following pre-deployment checks and a briefing by the Field Team Coordinator (FTC), FMT-1 was initially directed to go to the intersection of State Road and Bartlett Road. At 1015, the team left the Pilgrim Emergency Operations Facility (EOF) and, along the way, monitored ambient radiation using their CD V-718A survey meter with beta window closed. The team arrived at their destination at 1034. They immediately notified the EOF and were directed to do a full survey in order to obtain and count an air sample. Area background was established at .019 mR/hr. A survey was conducted with the CD V-718A and all open and closed window readings at waist and ground levels were at natural background levels. As directed, the team started their H 809C air sampler at 1047. Flow rate was noted at 0.8 cfm. To obtain the required minimum 10 cubic ft sample, a sample time was established at 13 minutes. The air sample was completed at 1100. Open and closed window readings, which were taken at waist level before, during and after sampling, were all essentially background. While the air sampler collection was in progress, one team member labeled two whirl-paks and filled out two MERL Sample Submittal Forms.

Because survey results were less than background, there was no need to move to a lower background area and purge the sample. Nevertheless, the team described the background limit of 300 counts per minute (cpm) and the process of purging the sample for five seconds. Plastic bags were used to cover portions of the back of the truck and create "clean and contaminated areas for counting. The team then used their procedure and followed it step-by-step in order to remove and count the particulate filter using their Ludlum 14C survey meter. Gloves were

changed at appropriate times and tweezers were used to prevent cross-contamination during filter removal. Prior to counting, a clean bag was placed on the probe of the Ludlum 14C. Using the filter holder as the counting geometry, the sample was counted and yielded 40 gross cpm with a 40 cpm background. The charcoal filter was also carefully removed and similarly counted with the same results. Samples were placed into the pre-prepared whirl-paks, sealed, and placed into a larger bag with the sample submittal form and sealed. Sample results were transmitted by radio to the EOF at 1112 and FMT-1 was told to stand by for further instructions.

At 1125, the team was told to ingest one tablet of KI. At 1131, the team was notified that a General Emergency (GE) Emergency Classification Level had been declared and that a release was in progress. At 1137, FMT-1 was told that the wind was from 355 degrees and the wind speed was 8 miles per hour. The team was directed to travel from their current location to Rocky Hill Road. Upon finding elevated radiation readings, they were to do a sample set and go to a safe location to count the samples.

While enroute, FMT-1 encountered 4 mR/hr at the intersection of Route 3 and Powerhouse Road. They stopped, radioed in the result and conducted a survey using their CD V-718A. Closed window readings at both waist and ground level initially indicated 15 mR/hr and open window readings at both waist and ground level indicated 40 mR/hr.

At 1157, they started their air sampler. Flow rate was again established at 0.8 cfm. To obtain the required minimum 10 cubic foot sample, a 13-minute sample time was used once again. Using the CD V-718A, a waist level survey at the beginning indicated 15mR/hr closed window and 40mR/hr open window. At the middle of sampling, a waist level survey indicated 25mR/hr closed window and 60mR/hr open window. At the end of sampling, a waist level survey indicated 30mR/hr closed window and 75mR/hr open window. The sample was stopped at 1210. The team left the area to find a low background area to purge and count their samples. They proceeded back to the intersection of State Road and Bartlett Road.

At 1218, FMT 1 arrived at their destination. After notifying the EOF, they verified that they had less than 300 cpm background, and then purged and counted their samples. As before, gloves were changed at appropriate times and tweezers were used to prevent cross-contamination. With a background of 50 cpm, the particulate filter yielded 450 gross cpm and the charcoal cartridge yielded 220 gross cpm. Samples were labeled and double-bagged and sealed as they had been previously. Sample results were transmitted by radio to the EOF at 1225.

The FMT-1 successfully completed a Chain of Custody Record Form for all samples that were obtained during the exercise. Sample Control Numbers were written on this form, along with sample type, date time and the signature of the persons who did the sampling.

At 1303, FMT-1 was notified that the exercise was terminated. They proceeded back to the EOF to turn in their equipment and dosimetry.

All activities described in the demonstration criteria were carried out in accordance with the plans, procedures and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.6 MA (PNPS) Field Monitoring Team-2

Criterion 1.a.1:

On March 21, 2013, the Massachusetts Field Monitoring Team 2 (FMT 2) successfully demonstrated alert, notification, and mobilization of emergency personnel to activate at the Pilgrim Emergency Operation Facility (EOF) during the 2013 Pilgrim Nuclear Power Station (PNPS) Plume Pathway Emergency Preparedness Exercise

The Nuclear Incident Advisory Team Massachusetts Field Monitoring Team 2 (FMT2) was staged in the area of the PNPS to reduce the travel time to 10 minutes for each normal hour of travel in accordance with the Extent-of-Play. The normal travel time is two hours. FMT 2 was notified of an Alert by Massachusetts Department of Public Health, Radiation Control Program management on March 21, 2013 at 0845 and arrived at the PNPS Emergency Operations Facility at 0905 for the performance of equipment inventory as needed and instrumentation operability checks. After the performance of the assigned tasks at 1005 the Field Team Coordinator (FTC) briefed the teams that PNPS had declared a Site Area Emergency and that no radiological release

was in progress. He also covered exposure levels, plant status and meteorological conditions. The FTC then identified the first location for each of the FMTs to travel to and obtain dose rate and an air sample

At 1010, FMT 2 departed for the first monitoring location. FMT 2 arrived at the first monitoring location at 1022. After arrival at the first location, the FTC sent a follow-up briefing regarding additional exposure levels, turn back levels and when to administer KI. In addition, the FTC notified the FMTs that an exposure on the Self Reading Dosimeters of 1R was equivalent to a Total Effective Dose Equivalent of 5 REM to account for potential internal exposure. At 1129, FTC instructed FMT 2 members to administer KI and report back that they took KI which they did at 1133.

The FTC notified FMT 2 at 1133 of a General Emergency declared 1116 at PNPS with a radiological release in progress. At the time of the General Emergency notification FMT 2 was located in a very low dose rate area, with survey instruments on and being monitored.

All activities were based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 1.d.1:

On March 21, 2013, the Nuclear Incident Advisory Team (NIAT) Massachusetts Field Monitoring Team 2 (FMT 2) successfully demonstrated communication systems during the 2013 Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise

Field Team 2 was equipped with a vehicle that hand held Massachusetts Emergency Management Agency (MEMA) 800 MHz radios as the primary means of communications. State issued cellular phones were the secondary means of communication and personal cellular phones were the tertiary means of communication. The primary and secondary systems were operability checked prior to departure and all were in working condition. No failures of any of the communication systems occurred during the exercise.

All activities were based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 1.e.1:

On March 21, 2013, the Massachusetts Field Monitoring Team 2 (FMT 2) successfully demonstrated equipment and supplies to support operations during the 2013 Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise

The Massachusetts Department of Public Health (MDPH), Radiation Control Program staffing FMT members arrived at the Pilgrim Emergency Operations Facility (EOF) with direct reading dosimeters (DRDs) and a permanent record dosimeter (PRD). MDPH maintains radiological equipment and instrument kits that include potassium iodide (KI), and survey meters at the EOF for the use by Field Monitoring Teams (FMTs). The equipment kit also includes all necessary support equipment for field team use.

A complete and correct inventory is maintained on all this equipment to include the equipment kit being sealed after inventory to avoid the need to re-inventory the kit just prior to use. All DRDs were leak checked and calibrated August 17, 2012. The PRD was issued in January 15, 2013 and are issued quarterly. The Radiological Health staff stated that each time a DRD is calibrated a leak test is performed and the DRDs are calibrated annually. Documentation of the last calibration and leak test was provided. Sufficient personnel protective equipment (PPE) was available as well as current plans and procedures. Supporting equipment – maps, clipboards, tape, filters, forms, pens, etc were available in sufficient quantity to sustain the field team deployment. The FMT was supplied with the equipment necessary to perform field monitoring as needed: CDV-718A low and high range survey meter (calibration due date August 24, 2013), Ludlum 19C with HP-210 probe for contamination monitoring and air sample counting (calibration due date August 8, 2013), Radeco Air Sampler (calibration due date July, 2013), silver zeolite cartridges – expiration october, 2013 (Charcoal used for exercise), KI – expiration February, 2014.

Prior to deployment, pre-operational checks of the instruments were performed. The checks included a visual inspection for damage, a battery check and an operational response and source check. These checks were conducted satisfactorily and documented on the appropriate forms in accordance with procedure. Each monitoring instrument had a source check range sticker on the instrument case and was met successfully during the source check. The Air Sampler was operationally checked successfully prior to field team deployment. In accordance with plans and procedures 10 cubic feet air samples were taken. The CDV-718A, in addition to being a low range instrument, is also a high range detector. No method existed for source checking the high range. The high range detector activates at 5 R/hr. NIAT/MA FMT procedures limit the

exposure of the members to 175 mR and then with approval up to 1 R and they have a turn back value of 500 mR/hr and only find the edge of the plume. In accordance with plans and procedures they would not be allowed in an area where the high range detector would activate and it is reasonable that no source check method for the high range detector is contained in the plans.

The MDA for radioiodine was less than 1×10^{-7} uci/cc. An adequate supply of back up equipment was available at the EOF in case of any instrument failure.

All activities were based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 3.a.1:

On March 21, 2013, the Massachusetts Field Monitoring Team 2 (FMT 2) successfully demonstrated implementation of Emergency Worker Exposure Control during the 2013 Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise.

According to plans and procedure teams were assembled and dispatched at the Alert level. Radiological briefings were held at the Pilgrim Emergency Operations Facility (EOF) prior to dispatch for monitoring activities.

Dosimetry, consisting of a 0-20 R, 0-200 Direct Reading Dosimeters (DRDs) and a Permanent Record Dosimeter was brought with each Field Team member. All DRDs were within a one year calibration period, the calibration includes leak testing of the DRDs. The PRDs had an issue date January 15, 2013 and are changed quarterly. The exposure limit of 5 Rem, which according to plans and procedures is a reading of 1 R on the self reading dosimeter, this takes in account the internal dose based on the self reading dosimeter dose which is an external dose only. This implies a default dosimeter correction factor value of 5.

The radiological briefings included the exposure reporting levels 100 mR, and 175 mR that requires the Field Team Coordinator (FTC) be notified and approve an increase above this value, a reporting exposure value of each 1R after that and a dose rate of 500 mrem/hr is the turn back value. The radiological briefings also included to verify that DRDs were zeroed, and levels documented every 15 minutes. The use of KI was discussed with the team members along with who could authorize the use of KI. Instructions are contained in the plan for those that either

refuse to take KI or have allergic reactions to the use of KI.

Radiation exposure was tracked using forms contained in the plans and procedures. Field Team members were told to read DRDs every 15 minutes which was performed during the exercise.

The direction to take KI was received by FMT 2 at 1129 from the FTC after approval from the Massachusetts Department of Public Health Management; the ingestion of KI was simulated and documented. FMT 2 members were knowledgeable of the exposure limits, and the reason for ingestion of KI, along with the possible adverse effects. All exposure tracking forms were returned to the FTC at the end of the mission, the FTC may decide to have certain individual's Permanent Record Dosimeters sent for exposure evaluation. The plans and procedures contain instructions on actions to be taken if DRD and/or the PRD is lost or malfunctions during use. Emergency Worker monitoring/decontamination stations are identified in the ORO plans and procedures.

All activities were based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 4.a.3:

On March 21, 2013, the Massachusetts Field Monitoring Team 2 (FMT 2) successfully demonstrated Plume Phase Field Measurements and Analyses during the 2013 Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise

The assembly area for the Nuclear Incident Advisory Team (NIAT) Massachusetts Field Monitoring Team 2 (FMT 2) was located at the Pilgrim Emergency Operations Facility (EOF) in Plymouth, MA. The location had pre-staged radiological kits containing all the necessary equipment and instruments to perform field monitoring in accordance with the NIAT Manual. Background readings were taken on all instrumentation prior to dispatch to field locations.

During the Pilgrim Nuclear Power Station (PNPS) Exercise on March 21, 2013, the FMT 2 performed and recorded ambient radiation measurements at locations directed and during transit, collected radioiodine and particulate samples, and analyzed samples in low background areas to determine amounts of activity that had been collected on sampling media. FMTs do not calculate the air sample results, this is done at the Pilgrim EOF by the FTC.

The team was composed of two Massachusetts Department of Public Health, Radiation Control Program staff.

The Field Team Coordinator (FTC) located at the Pilgrim Nuclear Power Station Emergency Operations Facility directed FMT 2 to designated sample locations in the 10-mile Emergency Planning Zone (10-mile EPZ). While in route to sampling points, FMT 2 used a CDV-718A to obtain gamma readings. The same instrument was used for monitoring for gamma and beta exposure levels at the monitoring locations at ground and waist level. During Air Sampling the same instrument was used to take readings at the start, middle and end of the air sampling process. A Radeco DC Air Sampler was used, each sample collection was timed to verify the air sample volume was 10 cubic feet.

Prior to dispatch, FMT 2 was notified at 1005 that Seabrook Station had declared a Site Area Emergency and no release was in progress. At that time FMT 2 was dispatched to a location identified by the FTC and arrived at 1033, they were instructed to perform exposure readings and collect a baseline air sample. The FTC then directed FMT 2 to hold at that location and await further instructions. FMT 2 continued to monitor the location with the instrumentation provided. Controller injects indicated background. The normal trigger level that is acceptable to take an air sample is 1 mR/hr, this was modified as directed during this exercise by the FTC to areas showing increases in radiation levels.

At 1129, the FTC notified FMT 2 to take potassium iodide (KI) and document it was taken which was successfully simulated and documented. At 1133 FMT2 was notified by the FTC that Pilgrim Nuclear Power Station had declared a General Emergency (GE) at 1116 hours with a release in progress. At 1210 the FTC directed FMT 2 to another sampling location and to perform exposure readings during transit and if elevated radiation readings were found to take an air sample. After traversing the route between the two sampling locations, elevated radiation readings were eventually found, the FTC was contacted and the team was instructed to take an air sample. The CDV-718A read 0.4 mR/hr window closed at waist and ground level and 0.8 mR/hr window open at ground and waist level. The air sample was performed in accordance with plans and procedures and contamination control was accomplished correctly. At the conclusion of the air sample, FMT2 moved to an area of low background, purged the noble gases by running the air sampler for 10 seconds, and then analyzed the particulate filter and charcoal cartridge. Injects received from the controller were transmitted to the FTC at the EOF. The air sample particulate filter was 0 net cpm, the Iodine cartridge (charcoal used for exercises) was 0 net cpm.

If any sample would have had significant activity the team would have contacted the FTC and a courier would have been dispatched to transport the sample to the laboratory for further analysis. All samples taken were identified in accordance with the Chain of Custody procedure and an FMT2 member explained how the Chain of Custody form would be used for each individual in custody of the samples being transported and/or analyzed.

At 1300, the exercise was terminated.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.d.1, 1.e.1, 3.a.1, 4.a.3.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.1.7 MA (PNPS) Joint Information Center

Criterion 1.a.1:

The Massachusetts State staff at the Joint Information Center (JIC) was notified of the Alert at the Pilgrim Nuclear Power Station at 0847. They were notified from the Massachusetts EOC (SEOC) by the State's Health and Homeland Alert System (HHAN) which sends both a text and phone message requiring confirmation. All three team members verified their receipt of the notification before going to the JIC. The three person team, headed by the Public Information Officer, arrived at the JIC at 0900. Because driving time to the JIC at this time of day can be well over an hour the team was positioned at the JIC for exercise purposes and told to wait about ten minutes after notification to report. Upon arrival the team retrieved the JIC box from storage and began setting up the communications equipment from a cabinet in the room designated for their use. The JIC was declared operational at 0955. At 1000 they received notification of the Site Alert Emergency and at 1131 of the General Emergency via fax from SEOC.

All activities were based on the plans and procedures and completed, as they would have been in

an actual emergency except as noted in the extent of play agreement.

Criterion 1.c.1:

The Public Information Officer (PIO) was in charge of the three-person Massachusetts State team at the Joint Information Center (JIC). The PIO was in contact with the Public Affairs Officer (PAO) at the State EOC before and after each media briefing. His staff monitored faxes to and from the local EOCs. The team operated very smoothly, each individual functioning so well, that very little direction was required. There was a constant flow of information among the small team, so there was no need to hold formal briefings. The team did review their standard operating procedures starting at 1210 to ensure that all required actions had been taken. When a fax from the PAO at the State EOC did not arrive the PIO confirmed a staff members suggestion to rerequest the fax, which resulted in the fax arriving in short order. The PIO arranged for copies of all message faxes, EAS messages, and News Releases to be collected.

All activities were based on the plans and procedures and completed, as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 1.d.1:

The Commonwealth of Massachusetts staff at the Joint Information Center (JIC) was well supplied with communications equipment. They set up nine phones, two fax machines, a copier/fax machine, a laptop for internet, and each of the staffers had a cell phone. The primary means of communication was phone. This was used to reach the State Emergency Operating Center (SEOC) and the six local EOCs. They sent to and received faxes from all the local EOCs and the SEOC. There was one problem with a news release fax from the SEOC. The second news release was sent to the JIC with draft stamped on it. They notified the SEOC and a second version without the draft stamp was sent. When this did not arrive after fifteen minutes they inquired and were told it was sent. After another ten minutes they rerequested it. It was sent and received within five minutes.

All activities were based on the plans and procedures and completed, as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 1.e.1:

The Joint Information Center (JIC) is located at the Entergy training Center on Armstrong Rd in Plymouth, MA. The Massachusetts Public Information Officer's staff at the JIC had maps of the

Emergency Planning Zone (EPZ), including evacuation areas and the ingestion pathway 50 mile radius displayed in their room. They also had a marker board to track Emergency Classification Levels (ECL) and event status. Their room was supplied with a projection screen and projector hooked up to the internet via computer and three TV monitors for monitoring information over the web such as rumors. There were information packets provided for the media by the utility in the media briefing room in addition to the 10-mile EPZ and 50-mile EPZ maps and an ECL sign. The JIC staff each arrived with a dosimetry packet consisting of a Dosimetry Life Record, (DLR) a 0-20R Direct Read Dosimeter(DRD), a 0-200mR DRD, a hand held charger, a packet of Potassium Iodide (KI), instructions on the use of the dosimetry and KI and a sheet for record keeping. The dosimetry is calibrated annually with documentation at the State Emergency Operating Center. The KI package contained 14 tablets and had an August 2014 expiration date.

All activities were based on the plans and procedures and completed, as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 3.a.1:

The Joint Information Center (JIC) is located inside the Emergency Planning Zone (EPZ), just four miles from the Pilgrim Nuclear Power Station. The State team at arrived at the JIC with their dosimetry packets. These had been issued to them prior to deployment because they may come from their office or home depending on time of an incident. They do not use their dosimetry unless there is a release and it is headed toward the JIC. Although there was a release during the exercise it was not toward the JIC. Hence they did not use their dosimetry. Each packet held a Dosimetry Life Record, (DLR) a 0-20R Direct Read Dosimeter(DRD), a 0-200mR DRD, a hand-held charger, a packet of Potassium Iodide (KI), instructions on the use of the dosimetry and KI and a sheet for record keeping. Two workers were interviewed on dosimetry usage. They were knew how to read the DRDs and that if they were not at zero they should use the hand held charger to zero them. They were aware that the DLR and DRDs, should be positioned about breast height. They were aware that their instruction sheet should be used to find both their dose limit sand how frequently they should read their DRDs. When asked about KI they knew that they should only take it when directed to do so. Because the facility is not hardened, the utility plan calls for an evacuation to the alternate JIC thirty miles away at the Moakley Center at Bridgewater State University, if the release is headed toward the JIC.

All activities were based on the plans and procedures and completed, as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 5.b.1:

The Joint Information Center (JIC) is located at the Entergy training Center on Armstrong Rd in Plymouth, MA. It was set up in accordance with the Joint Information Center procedures. There was sufficient space and equipment for operations. All news releases and EAS messages were prepared at the Massachusetts Emergency Operating Center (EOC) and Faxed to the JIC. These were examined to be certain the entire message was properly received and made available to the media as soon as possible. The second news release fax received had a draft stamp on it. The JIC staff requested a clean copy. When this did not arrive after fifteen minutes JIC staff called the SEOC and confirmed it had been sent. After another five minute wait they requested the Public Affairs Officer (PAO) at the EOC to resend the fax, which arrived in short order. Public inquiries were handled by 211.

The JIC was in contact with the Public Information Officers (PIOs) at the local EOCs by fax and phone. They received one news release from Plymouth EOC, two from Taunton EOC, and three from Carver, Duxbury, Braintree, and Marshfield EOCs. Kingston EOCs was extremely short staffed due to an actual emergency and did not send any news releases. They were in telephone contact with all the local EOCs to stay abreast of any developments that needed to be relayed to the public or the State EOC.

The media representatives were provided with a media kit, following registration at the secure entrance to the media briefing area. This kit contains, a media manual for emergency preparedness prepared by Entergy. Current copies of all news releases and EAS messages were provided to the mock media as soon as they became available.

News releases were distributed to the media by the State of Massachusetts to discuss the Site Area Emergency and Precautionary Activities (at 1050) and the General Emergency, Governor declares State of Emergency, Protective Actions (at 1152).

There were four briefings during the exercise. Prior to each briefing the PIO spoke with the PAO to be certain his information was current and then had a brief consultation with the Entergy's Pilgrim Nuclear Power Station PIO.

The first briefing was at 1000. The Entergy representative began the briefing with an update on

the plant conditions. Then the PIO informed the media to consult either the calendar in their media kit for emergency classification levels and their definitions or go to the MEMA website at mass.gov/MEMA. About 1005 he received a note about declaration of Site Area Emergency (SAE), sirens and an EAS message. He confirmed SAE with the Entergy representative and then announced it in the briefing. He then informed the media that sirens were to sound at 1012 with an EAS message to follow at 1015. This message would inform farmers to shelter dairy animals and place them on stored feed, that all parks in the 10 mile EPZ were to be cleared, and that that school children were being relocated as a precautionary measure. People should call 211 with question, and not use 911. There was time for only one question, to the utility about whether the fire was a terrorist attack before the briefing adjourned so that the presenters could be updated on developments.

The second briefing was at 1047. The Entergy representative began announcing that the reactor was now successfully shut down, although there had been an initial problem with sticky rods that delayed completion of the shutdown for several minutes. Then he announced that the fire that initiated the event was caused by paint fumes and there was no sign of terrorism. The PIO then announced that the school transfer had been completed as of 1026 and that parents were to pick up their children at their designated Reception Center. A ten-mile marine safety zone has been established and the first press release will be available shortly. Also that media could use Twitter, Facebook, and the phone app Pink Four to make enquiries. The only question asked the PIO was whether there were travel restrictions on route 3N. He replied that there are no travel restrictions at present.

The next briefing was at 1145. The PIO went first to announce the protective actions. An evacuation has been announced for Sub-Areas 1,2,4,5 and 12. Anyone else in the 10-mile EPZ was to shelter in place. Also all evacuees are to take KI. If they do not have KI they are to pick it up at one the three dispensing sites, exit 11 of I-93 N at Heritage Hall, exit 28 off I-93 at trailside Museum and exit 7A off route 24N at Brockton High School en route to their Reception Center. All the Reception Centers have been set up. The sirens went off at 1141 and the EAS message began at 1144. Entergy representative announced that there was a release in progress. Questions were asked about why area 4 was being evacuated, if evacuation can be forced, when people would be able to return home, and how will property be protected. All answers but one were answered.

The next briefing was at 1247. Entergy representative the plant situation is essentially unchanged

since the last briefing. PIO there are no new protective actions. He reiterated the protective actions already taken. Follow up on the previously unanswered mandatory evacuation is that the order is enforced by local law enforcement. Questions were asked regarding KI, talking to children, decontamination of the area and water safety. All questions were answered.

All activities were based on plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2 Risk Jurisdictions

3.3.2.1 Carver Local EOC

Criterion 1.a.1:

Criterion 1.a.1:

During the March 21, 2013 Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Carver Emergency Operations Center (EOC) staff used effective procedures to alert, notify, and mobilize emergency personnel and activate the facility in a timely manner.

At 0832, the Warning Point received a telephone call on a dedicated line, "DNN phone" and receiving notification from PNPS of an Alert Emergency Classification Level (ECL). A Follow-up information form was then completed. The notification was verified via commercial telephone.

At the ALERT level, the Carver Police Dispatcher notified agencies/individuals in the Town emergency response organization using the pager system, and request they report to the EOC. Notifications to Emergency Operations Center (EOC) staff began, starting with the Emergency

Management Director and Deputy Director. All notifications were complete and key staff was directed to report to the EOC. By 0850, all key personnel had arrived and the facility was declared operational.

Upon arrival, staff was required to check-in with security personnel and sign-in on a Staffing board under their specific position. The EOC is fully staffed with appropriate personnel at the ALERT emergency classification level. A primary and a minimum of one alternate are assigned for each staff position to ensure continuous 24-hour per day operations for a protracted period.

MEMA State EOC and MEMA Region II SEOC provide all subsequent notifications of ECL changes to Carver EOC via BECONS and radio.

The Emergency Management Director (EMD) asked staff to review their procedures under the Alert Emergency Classification Level (ECL). All staff has a binder specific to their position with checklists and information what to do at each ECL.

At 0957, another ECL was received stating that the plant conditions had escalated to Site Area Emergency (SAE). Finally, at 1132, the plant had declared a General Emergency due to degrading conditions.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent-of-play agreement.

Criterion 1.c.1:

Criterion 1.c.1:

During the March 21, 2013 Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Carver Emergency Operations Center (EOC) key personnel with leadership roles provided direction and control for the overall response effort at the EOC.

The Carver Township Selectman in conjunction with the Emergency Management Director (EMD) was in charge of the EOC response efforts. Upon arrival, the Selectmen and EMD ensured that all actions under the EOC Activation procedure were completed, to include ensuring Incident Report Form verification, staff notifications, EOC security and 24-hour staffing capability.

The EMD was very involved with other Offsite Response Organizations (ORO) to allow him and the Selectmen to make prompt, appropriate decisions. For an example, when making decisions for the Alert, the EMD was coordinating with transportation and the State to find out when buses would be available to transport the school children.

The EMD conducted several EOC staff briefings, they were conducted every hour as well as when there was a change or update. The first hourly briefing was at 0857. The briefings included updates on the current plant conditions, given ECL updates, Protective Actions Decision (PAD) and other new pertinent information as well as updates from each EOC staff on what they were working on and if they required additional resources or support. At 0850, the EMD reported the EOC operational, at 0904 he reported the Selectmen Declared a local State of Emergency, and the Governor announced a State of Emergency at 1035. The announcement of a Site Area Emergency (SAE) was at 0957 and the General Emergency (GE) was announced at 1132. At 1008 the EMD announced school transfers, park and waterways were closing, and for farmers to shelter their livestock and put lactating animals on stored feed. He then announced siren activations and EAS message broadcasts at 1012, 1015, 1141, and 1144 respectively. At 1143 the announcement came to shelter-in-place for their sub-section (11).

The Selectmen are responsible for direction and control of offsite emergency activities in the Town of Carver; they received advice and support from the EMD. The Selectmen, EMD and other EOC staff work very well together, and made quick, appropriate, and crucial decisions.

All implemented response actions were conducted in a timely manner.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 1.d.1:

Criterion 1.d.1:

During the March 21, 2013 Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Carver Emergency Operations Center (EOC) demonstrated at least two communications systems were available, at least one worked properly, and communication links were established and maintained, and communication capabilities were managed in support of emergency operations.

In the Carver EOC, the primary method for EOC emergency communications is the BECONS and commercial telephone with radio systems as the backup methods. The Town EOC communications links with emergency response organizations and Town response agencies. Additional communications links exist to support the network. Communications links between the EOC and Town departments include Police, Fire, Public Works and the School. In addition, EOC communications links have been established with MEMA State EOC, via the MEMA Region II EOC, other Town EOC's, the Media Center and hospitals using telephone or radio systems.

Other communication systems available in the Carver EOC include; Amateur Radio (RACES) landline telephone, the fax machine, email, cell phones and other radio systems such as push and talk. The primary and backup communications systems were fully operational at the commencement of the exercise.

Communications with hospitals are made using commercial telephone with radio as the backup method. EMS Department and the hospitals are capable of communicating with ambulances using C-MED radios.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

Criterion 1.e.1:

During the March 21, 2013 Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Carver Emergency Operations Center (EOC) demonstrated they had equipment, maps, displays, dosimetry, KI, and other supplies sufficient to support emergency operations.

Displays and equipment used at the Carver EOC were many and varied consisting of such items as Sector with Sub-Areas map, Radiological Monitoring/Plume, Traffic Control/Access Control, Primary Evacuation Routes, and Reception/Care Centers maps. A detailed Town of Carver Map, Massachusetts State Map, 10-mile planning zone map for PNPS which included siren locations, wind direction arrow, and other pertinent information and locations and an Ingestion Exposure Pathway (50-mile) map.

Other displays consisted of a Radiological Emergency Status Board which contained a wind direction indicator, incident classification indicator, and a Protective Action Decision status indicator. There was a board, "Emergency Public Information" with information such as what a siren means, evacuation, shelter-in-place, how to get more information, where reception centers are located, transportation, etc. There was also a board with all the Emergency Classifications Levels (ECL) listed with explanations.

Equipment in the EOC included printers/copiers, computers, telephones, work stations and writing supplies. Each of the EOC personnel also had a binder which explained their position, provided checklists, and what to do at each new Emergency Action Level (EAL). Television, an AM/FM Radio and a Tone Alert Radio are available to monitor EAS messages.

When arriving at the EOC, personnel must check-in with a Sheriff's Deputy, and then sign-in on the EOC sign-in board which indicated primary and alternate personnel as well as time in and time out.

Dosimetry is stored at the EOC ready for distribution to emergency workers. Dosimetry packets are prepared for EOC Personnel, School Department Bus Drivers, TSA Personnel, EMS Personnel, DPW Personnel, Police Personnel, and Fire Personnel. Each department's packets are in a labeled storage container. Dosimetry available at Carver EOC include: DLRs, Control DLRs, High Range DRD 0-200R (High-Range (0-200R) DRDs are not part of the standard dosimetry kits. A supply of High-Range DRDs are stored at the EOC and are available for individuals volunteering to exceed MDPH limits for a life-saving mission), Mid Range DRD 0-20R, Low Range DRD 0-200mR, CDV-750 dosimeter chargers, and a lead storage container.

Radiological Dosimetry kits were distributed to five Emergency Workers (EWs) during the exercise. The kits contain a Low-Range (0-200mR) DRD, Mid-Range (0-20R) DRD, DLR, EWE Form, Neck Chain, one 130 mg. KI tablet (Expiration date 08/01/2014) along with a KI instruction sheet, and a Dosimetry Instruction Briefing Card all contained in a sealable plastic bag.

Dosimetry packets are inventoried, inspected, and maintained by Massachusetts Emergency Management Agency (MEMA). In addition to the EW dosimetry kits that are prepared, there are 700 doses of KI in the Carver EOC with the same expiration date of 2014.

MEMA supplies a sufficient complement of KI tablets for the Town of Carver to allow for distribution to emergency workers promptly upon the recommendation from the MDPH Commissioner or designee.

The Carver Department of Public Works provides traffic and access control equipment and has sufficient quantities of barriers and cones available for Traffic and Access Control Points.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.a.1:

Criterion 3.a.1:

During the March 21, 2013 Pilgrim Nuclear Power Station (PNPS) Plume Exercise, the Carver Emergency Operations Center (EOC) demonstrated the issuance of appropriate dosimetry, KI, and procedures, and managed radiological exposure to emergency workers in accordance with their plans and procedures. They also demonstrated that emergency workers periodically and at the end of their mission read their dosimetry and record the readings on their exposure record, and that appropriate record keeping of the administration of KI for emergency workers was maintained.

According to the extent-of-play, the Radiological Officer (RO) was required to distribute dosimetry packets to five emergency workers. Prior to distribution, the RO ensured that dosimeters were calibrated and zeroed out and potassium iodide (KI) was not expired. Once complete, the dosimetry packets were ready for distribution.

The Emergency Worker kits contain a Low-Range (0-200mR) DRD, Mid-Range (0-20R) DRD, DLR, EWE Form, Neck Chain, one 130 mg. KI tablet (Expiration date 08/01/2014) along with a KI instruction sheet, and a Dosimetry Instruction Briefing Card all contained in a sealable plastic bag.

At 0931, the Radiological Officer conducted a Dosimetry Briefing to five EOC staff. The briefing covered the use of dosimetry, reporting exposure readings, turn back values, exposure limits, and authorizations to exceed exposure limits, KI, Dosimetry Report Form, Pregnancy

Declaration Form and instructions after Completion of Assignment.

Once completed, interviews were conducted with two of the five who received the emergency worker dosimetry kits. The interview covered the use of dosimetry, reporting limits, turn-back value, and authorization to exceed maximum exposure limits. This was successfully demonstrated.

The emergency workers knew to immediately contact the RO if they reach readings of 100mR, 175 mR, or 1R increments on their DRDs and to record all readings on their exposure card. They knew that a reading of 175mR would be cause to be relieved from their station and must report to the emergency worker monitoring and decontamination center, and life saving exposure must be authorized by Massachusetts Department of Public Health and must be voluntary when fully aware of the risks. They also knew to read their dosimetry every 15 minutes and stated KI was voluntary to ingest and was used to block iodine radiation from the thyroid. They were able to properly demonstrate reading the dosimetry and how to wear the equipment.

At 1137, after the General Emergency was declared, the RO instructed all Carver emergency workers to read their dosimetry every 15 minutes, and if the dosimeter has a reading of 100mR, 175mR, or 1R or greater, to report the reading to the RO.

At 1146, the MEMA Region II RO notified the Carver RO that there was a recommendation from MDPH for emergency workers to ingest KI. At 1146, the Carver RO instructed Emergency Workers to ingest one tablet of KI and record the time and date on the EWE form and to report any adverse effects.

Also, the RO announced that Carver would be sheltering in place and to close all windows and doors and shut down ventilation systems which exchange outside air.

The RO every 15 minutes reminded the EOC staff to read their dosimetry and record the reading.

Dosimetry is stored at the EOC ready for distribution to emergency workers. Dosimetry packets are prepared for EOC Personnel, School Department Bus Drivers, TSA Personnel, EMS Personnel, DPW Personnel, Police Personnel, and Fire Personnel. Each department's packets are in a labeled storage container. Dosimetry available at Carver EOC include: DLRs, Control DLRs, High Range DRD 0-200R (High-Range (0-200R) DRDs are not part of the standard

dosimetry kits. A supply of High-Range DRDs are stored at the EOC and are available for individuals volunteering to exceed MDPH limits for a life-saving mission), Mid Range DRD 0-20R, Low Range DRD 0-200mR, CDV-750 dosimeter chargers, and a lead storage container.

Dosimetry packets are inventoried, inspected, and maintained by Massachusetts Emergency Management Agency (MEMA). In addition to the EW dosimetry kits that are prepared, there are 700 doses of KI in the Carver EOC with the expiration date of 08/01/2014.

MEMA supplies a sufficient complement of KI tablets for the Town of Carver to allow for distribution to emergency workers promptly upon the recommendation from the MDPH Commissioner or designee.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 3.b.1:

Response activities in the case of an emergency at the Pilgrim Nuclear Power Station (PNPS) for the Town of Carver are directed from the Carver Emergency Operations Center (EOC). The EOC is managed by the Carver Department of Emergency Management and response efforts are directed by the Carver Emergency Management Director (EMD). During the exercise of March 21, 2013 the Carver EOC demonstrated the availability of sufficient supplies of Potassium Iodide (KI) and the ability to furnish proper instructions for the use of KI by Emergency Workers. The Town of Carver has no institutionalized individuals and does not furnish KI to the general public.

At 0832 the Carver EOC received notification that PNPS had declared an "Alert" Emergency Classification Level (ECL). At 0920 the Radiological Officer (RO) conducted a radiological brief for five (5) emergency workers as required by the extent-of-play. Each worker was issued a radiological kit. Each radiological kit contained sufficient KI in the form of 130 mg Iosat tablets (expiration date 8/2014) for each assigned emergency worker. The kits also contained an instruction sheet that identified dosage, contraindications of administration of KI, possible side effects and an explanation of the general purpose for ingesting KI. This material was also thoroughly covered in the briefing provided by the RO. Each kit also contained an emergency worker exposure form that indicated if and when KI was ingested. This form was to be returned to the issuing RO after mission completion for documentation. The RO also maintained a record of each kit issued.

At 0935 the RO distributed sufficient quantities of radiological equipment kits to local emergency response organizations to include the Carver Police Department (CPD), the Carver Fire Department (CFD), and the Carver Public Works Department (CPWD). These kits were to be distributed to individual emergency workers by a dosimetry officer within each department.

An interview was conducted with one (1) CPWD worker and one (1) CPD Officer. Each demonstrated a commendable knowledge of the purpose of KI, they were familiar with conditions that would prevent the safe use of KI and knew that its use was voluntary. They were aware that they were to ingest KI only upon the recommendation of the Massachusetts Department of Public Health and that they were to record its ingestion on the appropriate forms. They knew the dosage for an adult to be one (1) 130 mg tablet a day for ten (10) days. They also were aware that their ingestion of KI was to be documented through recording on their exposure form and returning the form to the RO.

At 1132 it was announced within the EOC that PNPS had escalated to a “General Emergency” ECL and at 1143 protective action directives were given. These included a shelter-in-place directive for Carver and the administration of KI to emergency workers. At 1143 the RO announced to the EOC for all agencies to advise emergency workers in the field to ingest their issued KI and to record the date and time of ingestion.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 3.c.1:

Response activities in the case of an emergency at the Pilgrim Nuclear Power Station (PNPS) for the Town of Carver are directed from the Carver Emergency Operations Center (EOC). The EOC is managed by the Carver Department of Emergency Management and response efforts are directed by the Carver Emergency Management Director (EMD). During the exercise of March 21, 2013 the Carver EOC demonstrated the ability to implement protective action decisions for people with special access/functional needs.

The Carver EMD is assisted in notification of special needs individuals by the Carver Council on Aging (COA). The Carver EMD maintains within the EOC a confidential list of individuals that have special needs according to returned mailers supplied within the annual calendar published

and distributed by PNPS. This list is organized alphabetically and by individual needs. The EOC is equipped with a teletypewriter (TTY) system for contacting the hearing impaired individuals.

At 0832 the Carver EOC received notification that PNPS had declared an “Alert” Emergency Classification Level (ECL). Upon arrival at the EOC the COA representative simulated retrieving the special needs list and began a simulation of making phone contact with each individual listed. She was assisted in this effort by a COA assistant and two staff personnel from Carver Emergency Management. She estimated that the four of them could complete the initial notification of the special needs population in under an hour. The initial call advised of the incident at PNPS and asked those individuals to monitor local radio and television broadcasts. They would also be advised that a return call would be made if protective actions were required. The initial call also determined transportation needs for the listed individuals. Upon completion of the simulated calls the COA representative relayed the transportation needs to the transportation representative in the EOC.

At 0934 the TTY system was demonstrated to be operable through a message sent to the Carver 911 dispatch center. Message was received and a reply was transmitted successfully.

At 0956 the COA representative received notification of an escalation to the “Site Area Emergency” ECL and contacted the transportation representative to confirm that sufficient transportation resources were staged and ready to respond. She then simulated a second round of calls to advise individuals with access/functional needs of the escalation and to verify transportation needs. She then contacted the EOC Public Information Officer (PIO) to update her on special population actions and to be sure that the COA phone number was publicized for these individuals to use.

The scenario of this exercise did not require the evacuation of any special needs population within the jurisdiction of the Town of Carver.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.2:

Emergency response to an incident at the Pilgrim Nuclear Power Station (PNPS) is the responsibility of the Carver Emergency Management Department (CEM). Response activities are

coordinated in the Emergency Operations Center (EOC). The response efforts are directed by the Carver Emergency Management Director (EMD). During the exercise of March 21, 2013 the Carver EOC demonstrated the ability to implement protective actions for schools within their jurisdiction. The following schools and day care centers are located within the jurisdictional boundaries of Carver: Carver Middle and High School; John Carver Elementary School; Erwin K. Washburn primary school; Captain Pal pre-school; Cranberry Crossing, Kids Count and Kids Stop day care centers. All school plans and procedures were evaluated prior to exercise date.

At 0832 the Carver EOC received notification that PNPS had declared an “Alert” Emergency Classification Level (ECL) at 0825.

The Carver School District is represented within the EOC; the school representative was notified through a call down system and arrived at the EOC at 0850. At 0905 he had received a briefing from the EMD and made notification to the Administrative Staff Coordinator at Carver School District headquarters. The Administrative Staff Assistant assumed the responsibility of contacting the individual schools and day care centers to inform them of the incident and obtain a student census. At 0915 the school representative received a call back (simulated) and contacted the transportation representative. He furnished school population numbers for possible transport. These numbers were relayed by the transportation representative to Massachusetts Emergency Management Agency (MEMA) Region 2 in order to assure sufficient buses would be utilized. All transportation resources for the Carver School District are provided by MEMA and the transfer of students is a MEMA Region 2 function.

At 1001 MEMA Region 2 notified the Carver EOC that buses had been staged at 0956 and that they (MEMA) were ordering a precautionary transfer of students. The EOC was advised that the buses would arrive at schools at 1010, would depart at 1015 and would arrive at host schools at 1025.

At 0957 the EOC was notified of an escalation in ECL to the Site Area Emergency (SAE) that had been declared at 0944. According to plans and procedures the students from Carver High School and Carver Middle School were transferred to the Bridgewater/ Raynham High School. Students from Carver Preschool; Erwin K. Washburn primary and the Carver Elementary School were sent to the Williams Middle School in Bridgewater.

The timeline for the simulated transfer of students was supplied to Carver EOC by MEMA. At

1012 the School Representative contacted the Public Information Officer (PIO) and advised them of the transfer of students that was in progress. A press release was sent to the Joint Information Center (JIC) at 1018 advising the JIC of the student transfer.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.1:

Emergency response to an incident at the Pilgrim Nuclear Power Station (PNPS) is the responsibility of the Carver Emergency Management Department (CEM). Response activities are coordinated in the Emergency Operations Center (EOC). The response efforts are directed by the Carver Emergency Management Director (EMD). During the exercise of March 21, 2013, the Carver EOC successfully demonstrated the ability to establish and maintain adequate traffic and access control during an emergency situation at PNPS.

Traffic and access control in the Town of Carver during an emergency at the PNPS is the responsibility of the Carver Police Department (CPD). They are assisted in this effort by the Massachusetts State Police (MSP); the Plymouth County Sheriff's Office (SO); and the Carver Department of Public Works (DPW). The CPD is represented within the EOC during an emergency activation.

There are thirteen manned Traffic Control Points (TCP) and Access Control Points (ACP) within Carver jurisdiction. There are five un-manned TCP/ACPs. Each of these is clearly identified in the Town Emergency Plan and on large wall maps displayed within the EOC. Each location is identified through a number designation and materials / manpower needs are noted for each site.

At 0835 the Carver EOC was notified that the PNPS had declared an "Alert" emergency classification level (ECL). The EOC was activated and functional by 0850 hours with the CPD representative present. Upon his arrival the CPD representative received a briefing from the EMD and immediately established communications with the SO and the MSP, this was accomplished via telephone and completed at 0903. He then assigned six CPD officers to be on standby for TCP duties and called in reserve officers to prepare for assignment. At 0910 hours he requested TCP equipment be delivered to the TCP locations by the DPW. At 0917 DPW advised that TCP cones, barricades and signage were en-route to TCP/ACP locations. At 0923 he received notification that TCP/ACP equipment was in place. At 0927 six officers were reported

to have been issued their radiological equipment (simulated) and briefed for assignment.

At 0957 the EOC received notification of an escalation to the “Site Area Emergency” ECL at PNPS. The CPD representative dispatched (simulated) TCP personnel to establish and maintain TCP/ACP locations at 1000 and was notified by dispatch that all TCP locations were established and functional at 1017.

An interview was conducted with one DPW employee that would normally assist in the establishment of TCP/ACP locations. He displayed a workable knowledge of radiological equipment, was aware of exposure limits and knew the overall mission of TCP / ACP assignment. He had received a radiological brief and been issued radiological equipment. Both the briefing and equipment were evaluated under other criterion.

The DPW worker was aware that he was to return all radiological equipment to the issuing officer and report to the Regional Emergency Worker Monitoring and Decontamination Site (REWMDS) at the Erwin K. Washburn School upon mission completion. He was aware of the Reception Center location at Bridgewater State University in Bridgewater. He was not familiar with a source for maps to be given to the public but advised that he could easily direct motorist to that location.

There was a ten mile marine safety zone established by the Coast Guard at the direction of MEMA at 1007, the restriction of rail and/or air traffic is not a function of the Town of Carver.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.2:

Emergency response to an incident at the Pilgrim Nuclear Power Station (PNPS) is the responsibility of the Carver Emergency Management Department (CEM). Response activities are coordinated in the Emergency Operations Center (EOC). The response efforts are directed by the Carver Emergency Management Director (EMD). During the exercise of March 21, 2013, the Carver EOC successfully demonstrated the ability to identify and resolve impediments to the flow of evacuation traffic during an emergency situation at PNPS.

Traffic and access control in the Town of Carver during an emergency at the PNPS is the

responsibility of the Carver Police Department (CPD). They are assisted in this effort by the Massachusetts State Police; the Plymouth County Sheriff's Office (SO); and the Carver Department of Public Works (DPW). The CPD is represented within the EOC during an emergency activation.

During this exercise Traffic Control Points (TCP) were established at 1017 upon the escalation to the "Site Area Emergency" Emergency Classification Level (ECL) as required by plans and procedures. At 1135 the CPD representative received an inject indicating that there had been a motor vehicle accident involving an overturned fuel truck at the intersection of Plymouth Street and North Main Street in Carver. After notifying the Carver Fire Department and CPD dispatch, the CPD representative conferred with his supervisor; the transportation representative and the DPW personnel. They developed a detour for evacuating traffic that would not move traffic closer to PNPS and any possible future release. They requested the movement of the necessary barriers and then at 1142 advised the EOC Public Information Officer (PIO) of the route change. They also notified MSP and the SO of the detour route. At 1145 the CPD notified a large wrecker that was on contract to respond to the scene for removal of the overturned vehicle.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 5.b.1:

Emergency response to an incident at the Pilgrim Nuclear Power Station (PNPS) is the responsibility of the Carver Emergency Management Department (CEM). Response activities are coordinated in the Emergency Operations Center (EOC). The response efforts are directed by the Carver Emergency Management Director (EMD). During the exercise of March 21, 2013, the Carver EOC successfully demonstrated the ability to provide accurate information to the public in a timely manner.

The EMD in Carver EOC is assisted by three Public Information Representatives, two serve as Public Information Officers (PIO) and one as a rumor control representative. The main function of the PIO in Carver is to provide information on Carver actions and conditions to the Joint Information Center (JIC) for inclusion in JIC press releases and Emergency Alert System (EAS) messages. They also respond to local calls when they apply to Carver specific actions. The PIO compiles a brief at each ECL change and at other appropriate times to be reviewed by the EMD. If the EMD approves the brief it is sent to the Board of Selectmen for their approval. Once the

brief is approved by the board of selectmen it is faxed to the JIC. The Carver PIO does not hold news briefs or send press releases to the media. All media calls or requests are referred to the JIC.

After being notified of the declaration of an “Alert” Emergency Classification Level (ECL) at PNPS, the PIO representatives responded to the EOC, arriving at 0845. At 0847 a test fax was sent to Massachusetts Emergency Management Agency (MEMA) as a JIC had not been established. The PIO also performed a test on the Rumor Control Line as published and assured that it was functional.

At 0945 the first briefing was completed and sent to the EMD for approval, at 0957 the brief had been approved by the EMD and the Board of Selectmen and was faxed to the JIC. This brief advised of the EOC operational status and advised of a local State of Emergency Declaration by the Board of Selectmen at 0901.

Subsequent briefs were compiled at each escalation of ECL at 1040 after reaching the “Site Area Emergency” ECL and at 1150 during the “General Emergency”. Each time the brief went through the same approval process and was successfully faxed to the JIC for inclusion in their reports and news releases. Each brief contained pertinent information as to the actions of Carver agencies, school status, and progress of recommended actions for Carver residents.

Rumor calls were handled by PIO personnel in a professional and efficient manner. A total of six calls were received. There were no trends identified. All calls that inquired about activities specific to Carver were answered correctly and other calls were referred to the Massachusetts 211 information line as required in plans and procedures. One caller asked about getting a personal dose of KI and the rumor control person was not aware of the correct answer. He took the callers’ phone number, conferred with the EMD and returned the call to give the proper information. The rumor control representative remained abreast of developments in the scenario and was aware of recommended protective actions as they were received. He reminded callers to refer to their calendars and to stay tuned to local radio and television channels for further information.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 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.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.2 Duxbury Local EOC

Criterion 1.a.1:

During the Pilgrim Nuclear Power Station (PNPS) Radiological Emergency Preparedness Exercise on March 21, 2013, Duxbury Emergency Operations Center (EOC) used effective procedures to alert, notify and mobilize emergency personnel and activate facilities in a timely manner.

Per the Duxbury plans, initial notification of an event at PNPS was provided to the Duxbury Public Safety Dispatch Center via facsimile and the Dedicated Notification Network (DNN) at 0832. The Public Safety Dispatch personnel then called the Duxbury Emergency Management Director (EMD), and alerted the other EOC personnel via the Inforad Wireless Enterprise System (alphanumeric pager system) at 0838. Subsequent notifications were received by the EOC. Personnel began arriving in the EOC at 0845, and the EOC was declared fully operational at 0910. The following positions were staffed: law enforcement, fire department, radiological, public works, EMD, Schools, Transportation, Shelter Officers, Special Facilities Coordinator, Special Needs Officer, Public Information Officer, Radiation Officer, and communications. A roster for 24 hour staffing was provided.

Personnel were prestaged in the area per the extent-of-play agreement. Plans and procedures were available for all personnel.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

The Duxbury Emergency Operations Center (EOC) was under the control of the Emergency

Management Director (EMD). The town officials were kept abreast of operations throughout the day via phone. The EMD also was in contact with the Commonwealth of Massachusetts.

Plans and procedures were available for all members of the EOC. A log of events was projected on a board in the room, which was viewable by all staff. All decisions were made in a timely manner with the assistance of the personnel in the room.

The EMD conducted periodic briefings, in which all representatives provided information to the room. Additionally, the EMD would read the Emergency Action Directive Form to the room.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 1.d.1:

The initial warning point is the Duxbury Public Safety Dispatch Center which is located upstairs from the EOC. The Dispatch Center had the Dedicated Notification Network (DNN) and a fax machine that connected them with the nuclear plant. Land lines, two-way radios, and the Inforad Wireless Enterprise System connected them with the EOC staff.

Each of the work stations in the EOC was equipped with a landline phone and most stations also had a two-way radio. During the exercise, the Dispatch Center and the EOC both had fax machine issues; however they were able to work around the problem, and no information was lost.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of play-agreement.

Criterion 1.e.1:

The Duxbury EOC was equipped with about eight tables that had telephones and copies of the plans. There were maps of both the 10-mile and 50-mile Emergency Planning Zones (EPZ) as well as the routes for alerting and traffic and access control points. An electronic status board, white boards and an Emergency Action Level poster were also on the walls.

Direct Read Dosimeters (0-20R and 0-200mR) were available and had recently been zeroed. Potassium Iodide (expiration date of 8/2014) was also available. There was more than an

adequate supply for all emergency workers. Dosimetry would be turned in at the Emergency Worker Monitoring and Decontamination Center.

No monitoring instruments were necessary at this location.

All activities were based on the plans and procedures and completed as they would have been in an actual event, except as noted in the extent of play agreement.

Criterion 3.a.1:

Immediately after arriving at the Emergency Operations Center (EOC), the Radiation Officer (RO) began preparing the dosimetry kits.

Around 0910, the RO began the dosimetry briefing for the EOC staff. The Dosimetry Control Officer explained how to wear the dosimeters, the need to check the DRD every 15 minutes and recording the readings on exposure record card, to report an exposure of 100 mR, 175 mR, and every 1 R thereafter, and the proper use of the permanent record dosimeters (PRD). The briefing also included the proper dosing and documentation of KI ingestion, why it is administered potential adverse effects, where to report for monitoring and where and to whom to return their dosimetry at the conclusion of the emergency or mission. Dosimetry is turned in at the Emergency Worker Monitor and Decontamination Center.

Each officer received both a 0-20 R and a 0-200mR Direct Read Dosimeter (DRD) that were last calibrated in February 2013, a Landauer Luminescent Dosimeter, with a date of 2014, a 10 day supply of KI (dated 8/14).

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures and extent-of-play agreement.

Criterion 3.b.1:

Potassium Iodide (KI) and appropriate instructions are available should a decision to use KI be made. Potassium Iodide is made available to the general public if authorized during evacuation. Several distribution sites are established by the Commonwealth of Massachusetts along established evacuation routes. The general public has also had the opportunities to personally stockpile KI during published distribution periods at drug stores and other public events. Potassium Iodide is maintained on site for institutional facilities. Appropriate record keeping of

the administration of KI for institutionalized individuals is maintained by the Commonwealth and the actual institutions. Potassium Iodide is distributed to the general population upon an evacuation order, as stated in the Commonwealth of Massachusetts Radiological Response Plan. It is given to persons with disabilities and access/functional needs as authorized by the Commonwealth of Massachusetts Department of Public Health.

At 1132, a notice of a General Emergency was received at the Duxbury Emergency Operations Center (EOC). A Protective Action Decision (PAD) to evacuate Sub-Areas 1, 2, 4, 5 & 12, Shelter-in-Place for Sub-Areas 3 and 6-11 along with the decision to authorize the taking of KI for the general public and for institutionalized individuals was received at 1144 at the EOC. By 1210 the EOC staff had verified the order and KI on hand with all institutions in their sectors of the EPZ. Notification to the general public was made by the Commonwealth of Massachusetts.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.1:

Duxbury Emergency Operations Center (EOC) has a list of persons with special needs, which shows medical needs, mobility and other requirements. During the exercise, the special needs list was reviewed and was found to be up-to-date. No persons were identified as having service animals to be transported. Duxbury has two nursing homes, three group homes, eleven day care centers, three private schools and three camps in the EPZ.

At 0952 hrs, after receiving the Site Area Emergency (SAE) Emergency Classification Level (ECL), the EOC Special Needs Coordinator started reviewing the listing for a potential evacuation and started coordination with transportation for determining met as well as unmet needs. Phone calls to institutions and persons on the at risk listing were made or simulated to advise them of the situation and verify their current status. Also calls were made by the transportation coordinator transportation providers to determine availability of transportation resources for further potential requirements.

At 1132, a notice of a General Emergency was received at the EOC. At 1144, a Protective Action Decision (PAD) by the Commonwealth of Massachusetts to Evacuate Sub-Areas 1, 2, 4, 5 & 12, and shelter-in-place for Sub-Areas 3 and 6-11 was received at the EOC. The EOC staff immediately started implementing their plan. Continual updates to the EOC and verifications of

special needs population status were efficiently handled and all were accomplished by 1205.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.2:

There are four public schools and three private schools located in the Emergency Planning Zone (EPZ) with a total of 3,108 students and 408 staff. There are 11 Day Care Centers in the EPZ. All schools and Day Care facilities have evacuation plans.

At 0952 hrs, the Duxbury Emergency Operations Center (EOC) received an Emergency Classification Level (ECL) notification of a Site Area Emergency. At 0956, a Precautionary Decision was made to evacuate all schools in the Emergency Planning Zone (EPZ). The schools representative at the Duxbury EOC had the responsibility to notify the schools of the requirement to dismiss students. The Special Facilities Coordinator called the Day Care Centers. There is one host school identified to receive school children: Braintree High School. Under their plans, the School Principals have the actual authority and responsibility for evacuating students and notifying parents. Buses were coordinated between the Transportation Coordinator and the schools to ensure all needs were met. Schools are required to call the EOC Schools Coordinator to report the number of students and staff in attendance that day. The same procedure is used to report the completion of the dismissal process.

The schools were notified of the Site Area Emergency notification and the Protective Action Decision to evacuate all schools in the EPZ at 1002 hrs phone. Follow up calls were made to verify status and of students and staff (simulated). On-going reports of the schools evacuation status and the registration process being conducted at the host school were given at the EOC briefings. The process by the Schools, Special Facilities and Transportation Coordinators was handled quickly and efficiently.

Bus drivers are notified through the school district and report to the bus center. There were 20 buses available to accomplish the early dismissal of the schools affected. Bus Drivers were aware of their routes to be taken. Primary means of communications with the buses are by radio with cell phones as the backup

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

Criterion 3.d.1:

The Duxbury Emergency Operations Center (EOC) Radiological Emergency Response Plan pre-establishes the areas restricted and the required 17 Traffic and/or Access Control Points (TCP/ACPs). All TCP/ACP are manned by the Duxbury Police and Public Works Department.

The Duxbury Police Department and Public Works representatives, after receiving the Site Area Emergency ECL at 0952 hrs, started reviewing the designated TCP/ACP sites for potential usage. Planning was started for staffing needs in the event of an evacuation.

The Commonwealth of Massachusetts directs coordination for control of water traffic, rail traffic and air traffic. The TCP/ACP was quickly and effectively established after the General Emergency was declared at 1132 hrs. The initial area decision for the establishment of TCP/ACP by the EOC was sufficient and did not require the further movement of personnel during the exercise. No gaps in resources needed were identified.

Traffic Control Point personnel were briefed (simulated) on protective actions decisions, emergency worker protection and dose assessment and monitoring. One Police Officer and one Public Works employee were interviewed and demonstrated adequate knowledge of where the TCP/ACP were located, where the reception/registration centers were located and where the emergency worker monitoring and decontamination center was located. They were prepared to direct evacuees to the appropriate locations. Appropriate equipment for manning a TCP/ACP was demonstrated.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.2:

A large pothole on Highway 139 was reported at 1148 hrs to the Law Enforcement section of the Duxbury Emergency Operations Center (EOC) as an impediment to the evacuation of Sub-Area 4. The impediment was quickly determined as able to be cleared immediately with existing resources within the Duxbury Department of Public Works and that it would not be a continued impediment to an evacuation route. A temporary detour route was established around the area to be worked on for the period that the repairs would take. The Police and Public Works staff

demonstrated by interview with the evaluator the understanding, decisions and procedures needed to deal with a more complex and prolonged impediment as well.

Duxbury Police Department, and Department of Public Works had adequate resources on hand to effectively deal with the impediment and it was determined that the evacuation would be accomplished well before a press release would become effective.

The Duxbury Police has a close relationship established with the Public Works Department and the nearby HAZMAT Teams for immediate assistance as needed. There is also a standing list of towing companies to use for road clearance in the capability of the Public Works Department is exceeded.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 5.b.1:

Emergency information and instructions for the public and media was adequately demonstrated at the Duxbury Emergency Operations Center (EOC). The EOC does not issue Public information documentation, Emergency Alert System (EAS) messages or press releases but coordinates information to be released with the Joint information Center (JIC). They receive all EAS messages and press releases directly from the JIC. The EOC Public Affairs section does handle public inquiry calls. They answer the questions if appropriate to the Duxbury response and if necessary refer the caller to the 2-1-1 call center for Commonwealth or other agency response information required. Resolution of Rumor Control issues and referrals to 2-1-1 are reported to the JIC.

During the course of the exercise, the EOC Public Affairs Section responded to five calls requiring rumor control actions or referral to the 2-1-1 call center. During the exercise the fax machine at the JIC was experiencing problems and was unusable. The EOC Public Affairs Staff quickly found a work around solution and was able to continue their work unimpeded. All actions were accomplished in a professional and efficient manner and the Public Affairs Officer reported all actions to the JIC and briefed the status of the Public Affairs section at each EOC briefing as well.

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 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.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: 1.c.1.

ISSUE NO.: 48-10-1c1-A-02

ISSUE: The Duxbury Emergency Management Director (EMD) injected a non-scenario event involving a bridge closure for an evacuation route to support evacuees from Sub-area 4 without prior coordination with the MEMA Controller and the impacted jurisdictions of Plymouth and Marshfield. The areas affected by the simulated closure of Powder Point Bridge are Duxbury Beach, Gurnet Point, Saquish Neck and Clark's Island. By the time the controller was aware of the inject, operations and the other jurisdictions had already been notified and, in his estimation, was too far gone to stop.

CORRECTIVE ACTION DEMONSTRATED: The EMD assured that there was no interference from observers, and participated per the extent-of-play agreement.

- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.3 Kingston MA Local EOC

Criterion 1.a.1:

Mobilization was satisfactorily demonstrated at the Town of Kingston Emergency Operations Center (EOC) located at 105 Pembroke Street, Kingston, Massachusetts and at the 24-hour warning point located at Kingston's Police Department, 244 Main Street. At 0832, in accordance with the Town's Communication Standard Operating Procedure (KIN-13, Rev. 13), the 24-hour warning point (police dispatch) received the initial notification (Alert) from the Pilgrim Nuclear Power Station (PNPS) via a voice communication on the Dedicated Notification Network, followed by a fax. Notice of the Alert was immediately relayed to Emergency

Management Director (EMD) and all EOC staff members who began arriving at 0840. The EOC was declared fully operational at 0852, with all key staff identified in the plan on-hand. At 0852, the first briefing was conducted by the Emergency Management Director. Briefings continued to be conducted within a few minutes of receipt of all notifications. At 0958, the Selectmen issued a local Declaration of Emergency.

Further notifications came into the Communication Center at the EOC. Emergency Classification Levels (ECLs) continued to be reported to the Kingston EOC via DNN Radio followed a fax message sent to a dedicated machine located in the Communication's Center. These notifications were immediately provided to the EMD via a runner. Throughout the exercise, a RACES operator in the Communication's Center also remained in direct communication with all Emergency Planning Zone towns, and with Massachusetts Emergency Management Agency. The ability to identify and request additional resources or compensatory measures was adequately demonstrated throughout the exercise with no shortfalls observed.

Notification messages were received at the following times:

Alert: 0832

Site Area Emergency: 0955

General Emergency: 1131

All activities were based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the extent of play agreement.

Criterion 1.c.1:

Direction and Control was satisfactorily demonstrated at the Town of Kingston Emergency Operations Center and consistent with the Kingston Emergency Management Agency Standard Operating Procedure (KIN-02, Rev. 14). The Kingston Fire Chief referred to as the Emergency Management Director (EMD) has the overall coordination of all emergency management functions. During the exercise, the EMD maintained contact with the Selectmen. The EMD provided firm direction and control in response to the incident at Pilgrim Nuclear Power Station.

Throughout the exercise, the EMD provided numerous briefings to keep the staff informed. Coordination between the EOC and other off-site response organization was observed with all

key staff members routinely updating the EMD. The EMD and his staff worked with off-site response agencies to coordinate school transfers, clear waterways, and close recreation areas. Additionally, all key staff members at Kingston EOC properly performed the necessary tasks that successfully implemented protective action decision, including sheltering in-place and/or evacuation of their special needs residents and any transients (including confirming, and arranging for transportation, establishing Access Control Points, etc.).

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 1.d.1:

Communications were adequately demonstrated at the Town of Kingston Emergency Operations Center. Communications capabilities were managed in support of an incident at Pilgrim Nuclear Power Station (PNPS). For notification from PNPS in both the 24-hour warning point (located in police dispatch center) and the EOC, the primary communication system was the Dedicated Notification Network (DNN), which was a telephone linked to a fax machine. The alternate communication system was the BECONS (PNPS radio system) was also utilized during the exercise. In addition, the EOC's Communications Center was equipped with multiple systems to ensure communication with Massachusetts Emergency Management Agency (MEMA) and other Emergency Planning Zone (EPZ) communities, including Public Safety Dispatch Radio, Teletypewriter for the hearing impaired (TTY), weather alert radio, RACES radio equipment, and fax machines.

During the exercise, the Communications Officer handled all incoming messages. As notifications came in through the DNN, they were logged and immediately directed to the EMD with the help of a runner. There were no delays or communication failures observed.

EOC's primary communication system for the staff members was commercial telephone. Alternate systems included, fax machines, and personal cell phones. A staff member also maintained a status board documenting significant events for all staff members to reference.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 1.e.1:

Equipment and supplies were adequate at The Town of Kingston Emergency Operations Center and consistent to support emergency operations by the staff. The EOC used boards to record key event chronology data, to include emergency classification, protective actions, siren activation time, radiological release, and weather (wind speed and direction). In addition, Significant Event information was displayed for the EOC staff via a computer and projector. Maps were used to display traffic control points, the 10 mile Emergency Planning Zone (EPZ) and sub areas. Additionally the Kingston EOC had phones for each EOC position and a fax machine. Other supplies included a wall clock, pens, pencils, notebooks, EOC staff sign-in sheet, ceiling mounted projector, tables, chairs, copier, computers, dry erase markers and other miscellaneous EOC staff supplies and equipment.

The Kingston EOC had a sufficient amount of dosimetry kits available that were inventoried, inspected, and maintained. These kits contained Direct Reading Dosimeters (DRD): 0-200 mR and 0-20 R; Dosimetry Life Records (DLR), potassium iodide tablets (KI) (expiration date 4/2014); dosimetry instruction briefing cards; KI instruction sheets; 2 lead pig containers; and dosimeter chargers. The quantities of dosimetry and KI were adequate to support the EOC staff.

All dosimetry was current in calibration. Verification of the annual leak tests for DRDs was provided by the Massachusetts Emergency Management Agency to the Federal Emergency Management Agency Region I in the Annual Letter of Certification.

Each Kingston EOC member had access to their respective Standard Operating Procedures (SOP) upon arrival, as they were pre-positioned at each EOC duty assignment. Additionally, Traffic and access control equipment (cones, barriers, flares, etc.) was available through the Streets, Trees and Parks. Additional equipment is available from the Massachusetts Department of Transportation if needed.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent of play agreement.

Criterion 3.a.1:

Implementation of Emergency Worker (EW) exposure control was adequately demonstrated at the Town of Kingston Emergency Operations Center (EOC). Upon reporting to the EOC following the Alert declaration received at 0832 hours, the Radiological Officer/Dosimetry Coordinator (RO) reviewed his plans and procedures, then inventoried the EOC dosimetry and

zeroed the direct-reading dosimeters (DRDs). The RO prepared dosimetry packets for distribution to the EOC staff members. Each packet contained the following items: a low-range (0-200mR) DRD, a high-range (0-20R) DRD, a permanent record dosimeter, an emergency worker exposure form, a neck chain, and a dosimetry instruction briefing card. All dosimetry was current in calibration. A Letter of Certification had been submitted the Federal Emergency Management Agency Region I.

At 0940, the RO provided his initial briefing while issuing dosimetry packets to five emergency workers at the EOC. The RO reviewed the dosimetry instruction briefing card with each individual who received dosimetry. The briefing covered reading DRDs every 15 minutes, reporting limits, and the return of dosimetry at the end of the exercise; in addition the EMD referred female emergency workers to the Emergency Worker Exposure form for additional pertinent information. Following the declaration of General Emergency received at 1131, the RO conducted another all-hands briefing on the use of the dosimetry that had been issued. Through interviews, the emergency workers present in the EOC demonstrated an understanding of the purpose of the dosimetry they had been issued, that they should read their dosimetry every 15 minutes, and that they should notify the RO if any of their readings reached the reporting limits. They also understood if they were deployed to the field and received any exposure they would be directed to the emergency worker monitoring and decontamination station located at Erwin K. Washburn Primary School in Carver. The emergency worker's interviewed were familiar with the administrative limit of 100 mR and 175 mR, and understood an exposure extension would have to be authorized from the Massachusetts Department of Public Health to exceed those limits. They also understood they may be replaced. It was noted, that no emergency workers were dispatched from the EOC to the field.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 3.b.1:

The Town of Kingston Emergency Operations Center demonstrated on March 21, 2013 the decision to recommend Potassium Iodide (KI) for the General Public and institutionalized individuals.

Potassium Iodide (KI) has been pre-distributed in the Commonwealth of Massachusetts along with established KI dispensing sites that support the Pilgrim Nuclear Power Station Emergency

Planning Zone (EPZ) and overseen by the Massachusetts Department of Public Health (MDPH). KI will only be ingested under the direction and recommendation from MDPH along with applicable dosage and side effect instructions emphasized once a Protective Action Decision (PAD) is made and communicated to all risk jurisdictions. In addition, several references are available to the general public for information concerning KI such as the MDPH website, and a pre-distributed calendar. For the purpose of nursing home patients, institutionalized individuals, and other citizens that are not able to evacuate, an adequate supply of KI is available at storage locations such as The Rehabilitative and Skilled Nursing Residence and Providence House. Some schools and daycare centers that have elected to distribute KI have written consent to administer KI once the decision is made to do so. All individual and agencies ingesting KI are provided guidance on recording date and time of ingestion. Recommended dosage amounts for KI are Adults 130 mg, children age 3 to 18 years 65 mg, (young children one month to 3 years) 32 mg, and infants (birth through one month) 16 mg.

During this exercise, the recommendation to ingest KI was communicated to the Kingston EOC through a PAD from MEMA at 1141 during General Emergency. Due to an order to shelter in place in sub area 8, there was not a recommendation for the general public to ingest KI with the exception of all Emergency Workers (EWs). KI was simulated being issued on a dosimetry/KI report form to EWs and included necessary precautions and instructions during a Radiological Officer's briefing. The KI packets inspected during the exercise indicated an expiration date was August 2014. Through interview, the emergency workers at the EOC had basic knowledge of KI and the side effects.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.1:

The Town of Kingston Emergency Operations Center (EOC) successfully demonstrated on during the Pilgrim Nuclear Power Station biennial exercise on March 21, 2013 the ability to implement protective actions for persons with disabilities and access/functional needs.

During the exercise, the Special Needs Officer was responsible for the notification of the special needs population and coordination of transportation resources. The Health Officer was responsible for the notification of nursing homes and assisted living group homes in order to coordinate their transportation needs. After a declaration of an Alert at 0832 and the

mobilization of the EOC staff at 0852, the Special Needs Officer reviewed the Special Needs spreadsheet and began making necessary notifications to verify and coordinate transportation needs, and arrange host facilities including notifying The Massachusetts Emergency Management Agency (MEMA) Region II at 0920 that Host Hospitals were ready. In accordance with plans, a prioritized list is established as follows: Priority 1, Anticipated Ambulance Pick-Up, Priority 2, Anticipated Wheelchair Van Pick-UP, Priority 3, Anticipated Passenger Van Pick-Up, and Priority 4, Anticipated Bus Pick Up, Priority 5, Sheltering-in-Place Assistance, and Priority 6, Evacuation Preparation Assistance. A copy of the Special Needs spreadsheet was updated and provided to the Transportation Officer.

In addition, contact was made with (2) hard of hearing families via video phone and email and confirmed with the EOC Police Representative. During Site Area Emergency (SAE) the Special Needs Officer ensured the arrangement of all transportation needs were coordinated with the Transportation Officer, reported to the MEMA Region II and completed at 1003. Completion of all Alert and Site Area Emergency checklist items were completed along with a detailed log of actions.

During General Emergency (GE), a Protective Action Decision was received from MEMA at 1144 ordering shelter-in-place of sub area 8 within the boundaries of the Town of Kingston. The Special Needs Officer ensured information regarding shelter was communicated (simulated) to all Special Needs personnel along with offering assistance for sheltering procedures.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 3.c.2:

The Town of Kingston Emergency Operations Center (EOC) successfully demonstrated during the Pilgrim Nuclear Power Station (PNPS) Biennial exercise on March 21, 2013 the ability to implement protective actions for schools.

A coordinated effort between the Superintendent's Representative, School Representative, and Transportation Representative ensured that notifications to schools, licensed day care providers and necessary transportation resources were available to support a simulated incident at PNPS. Upon notification of an Alert at 0832, and the mobilization of the EOC staff at 0852, the Superintendent's and School Representatives began notification to schools and licensed day care

facilities in order to verify total numbers of staff, students and any special transportation needs required in the event a relocation order was given. Transportation needs were coordinated through the Transportation Representative and requests forwarded to Massachusetts Emergency Management Agency (MEMA). One initial telephone call was made to all participating schools during the exercise with subsequent call being simulated. Initial notification calls included Kingston Elementary School, Kingston Intermediate School, Silver Lake Regional Middle School, Silver Lake Regional High School, Sacred Heart Earl Childhood Center, Sacred Heart Elementary School, Sacred Heart High School, Crayon College, Inc., Growth Unlimited Pre-School, Little People's Country Day Care, South Shore Early Education, and Wooded Acres Child Care. A precautionary order to transfer students was made at 1006 during Site Area Emergency (SAE) along with the simulated use of 104 buses needed for a total of 4644 students and staff moving to host facilities. Arrival time of buses was at 1011, departure to Reception Center at 1016, with arrival at Reception Center at 1026 (compressed time). Notifications were made to the parents through the school district in a efficient and timely manner. This was confirmed by the School Representative at the EOC.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 3.d.1:

The Town of Kingston Emergency Operations Center (EOC) successfully demonstrated on March 21, 2013 that implementation of Traffic and Access Control points were established.

A Radiological Officer's briefing was held during Alert in which the Town of Kingston Police and Highway representatives were issued appropriate dosimetry, issue form, and briefed on Potassium Iodide (KI). The mission responsibilities of Traffic Control and Access Control Personnel (TCP/ACP) throughout the Town of Kingston located in Zone 8 and part of the 10-mile Emergency Planning Zone (EPZ) was accomplished through interview. A simulated deployment of TCP/ACP was directed by the Emergency Management Director (EMD) during Site Area Emergency (SAE). TCP/ACP personnel described their procedures for briefing personnel, identifying and maintaining TCP/ACP points, and deployment and redeployment of personnel. In addition, the TCP/ACP personnel had a clear understanding of equipment issue procedures, dosimetry use and reporting, coordination protocols with other Offsite Response Organizations (OROs) that may be necessary for traffic and access control, coordination of security requirements, and clearing impediments on primary and alternate evacuation routes.

TCP/ACP personnel ensured the coordination and accomplishment of securing waterways, rails, and closing of recreational areas at approximately 1009 (simulated) during SAE. TCP/ACP points are identified in the Town of Kingston plan and were pinpointed on a wall mounted map by the Police and Highway REP during the exercise. Through interview emergency workers were aware of Emergency Worker Decontamination Center located at Erwin K. Washburn Primary School in Carver, as well as reception center locations.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.2:

The Town of Kingston Emergency Operations Center (EOC) successfully demonstrated the ability to identify and resolve impediments during the Pilgrim Nuclear Power Station Biennial exercise on March 21, 2013.

An inject message identifying an impediment (multi vehicle traffic accident) at the intersection of Route 53 and 3A was provided by a Massachusetts Emergency Management Agency (MEMA) Controller at 1000, just after the Site Area Emergency was declared. Typically impediments are identified through calls to Kingston's Public Dispatcher. For the purposes of this scenario, through the process of interview, the Town of Kingston police and highway representative identified key resources necessary to respond and clear the impediment which included notification of emergency medical personnel, State Police, fire, and local towing service via simulated telephone calls. In addition, the police and highway representative located the incident scene on a wall mounted map, identified key roads that would prevent further vehicle access, explained rerouting of traffic through alternate means, and described how, in a worst case scenario, removal of vehicles would be accomplished through the use of a dispatched plow service to the scene to push vehicles off the roadway in the event that towing was not possible. The Road, Trees and Parks Representative described the resources and heavy equipment available. For this scenario the agency has backhoes that could be used to clear the evacuation route. The impediment was cleared at 1105.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 5.b.1:

The Town of Kingston Emergency Operations Center (EOC) successfully demonstrated the ability to provide accurate and timely emergency information to the general public and media during the Pilgrim Nuclear Power Station biennial exercise held on March 21, 2013.

The Emergency Management Director (EMD) acted on behalf of the Public Information Officer (PIO) and utilized a series of pre-scripted messages throughout the exercise to establish, inform, coordinate, communicate, and maintain media operations during a simulated nuclear incident. Upon the Alert and mobilization of the Kingston EOC at 0852, the PIO ensured that initial and ongoing communications with Massachusetts Emergency Management Agency's (MEMA) Joint Information Center (JIC) was established, ensured numbering and logging of incoming and outgoing messages, and provided oversight of rumor control operations and announcement of a call in number for the general public. The PIO described the ability for 24-hour ongoing operations and necessary primary and backup communications and notification procedures necessary to sustain operations.

Although a limited number of media releases were generated by the Kingston EOC, emergency information such as closing of recreational areas and 10-mile marine safety zone, status of buses, precautionary shelter information, opening of reception centers, information for special populations, Emergency Alert System (EAS) broadcast stations, siren activations, and Protective Action Decision (PAD) such as sheltering within zone 8, were identified and demonstrated or conducted through interview. Numerous public information inquiries were received, logged, and answered to include the identification and proper handling of trend messages. The Town of Kingston EOC relies on MEMA for activation of sirens for notifications to the public and by plan, conducts back up route alerting in the event of a siren failure. The PIO identified and explained notification and verification procedures of Emergency Alert System (EAS) Stations and identified additional emergency information for the public that is pre-distributed within the 10-mile Emergency Planning Zone (EPZ) by Pilgrim Nuclear Power Station via an Emergency Public Information Calendar which is also available on the MEMA website.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 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.b.1.

- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.4 Marshfield Local EOC

Criterion 1.a.1:

The Town of Marshfield used effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013. The Marshfield 24-hour Warning point received notification of the Alert from PNPS via phone at 0831. The Emergency Operations Center (EOC) staff was immediately notified of the Alert via the “Notifier” (phone) messaging system.

The Emergency Management Director (EMD) was the first to arrive at the Marshfield EOC. EOC staff began to arrive shortly after the EMD. When all key positions were filled, the Marshfield EOC was fully staffed and operational at 0900. Marshfield EOC notified the Massachusetts Emergency Management Agency (MEMA) via radio that the Marshfield EOC was operational.

The Site Area Emergency and General Emergency Classification Level (ECL) changes were received through the Marshfield EOC Communications Room.

The EMD discussed the potential for 24-hour staffing and was prepared to support if required.

The Marshfield EOC demonstrated the capability to receive and verify notification, contact, alert and mobilize key personnel. The facility was activated and operational in a timely manner.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

Key personnel provided sufficient direction and control at the Marshfield Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The Emergency Management Director (EMD) at the Marshfield EOC was in charge of direction and control. The EMD was familiar with and adhered to the plans and procedures. The EMD demonstrated effective direction and control of the emergency functions for the facility. He also displayed knowledge of the emergency response procedure.

The EMD held periodic briefings and directed the staff appropriately. As members of the EOC staff arrived, they were directed to their plans and procedures. The EMD gave each staff member time to review their plans and procedures prior to the first briefing. Each staff person was given the opportunity to identify any issues and to ask appropriate questions. The EMD held specific briefings when the status of the emergency changed. He addressed all of the concerns of the staff.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.d.1:

At the Marshfield Emergency Operations Center (EOC), two communications systems were available and operational, and communication links were established and maintained with appropriate locations during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The ability to demonstrate the communications system was carried out throughout the exercise. The communications equipment required by the plans and procedures to be located at the Marshfield EOC was available and functioned. Two communication systems were established, demonstrated and maintained throughout the exercise. There were multiple methods of communication used: radios used to communicate with the Massachusetts Emergency Management Agency (MEMA), Region II and the Emergency Planning Zone (EPZ) towns, the DNN system from PNPS, several land line telephone systems, police and a fire radio, and alternately police and fire cell phones and radios in cruisers and fire trucks. The Marshfield EOC had several independent telephone lines. Additionally, they had another separate system (computer/radio) to communicate with schools, police and fire.

The EOC established communication between the EOC and MEMA as well as the adjacent communities. The communications officer monitored the radio equipment on a continuous basis,

documented incoming and outgoing messages, monitored and verified Emergency Alert System stations and verified messages. The EMD acted on all messages received from communication.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

The Marshfield Emergency Operations Center (EOC) had sufficient equipment, maps, displays, dosimetry, KI, and other supplies during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The Marshfield EOC demonstrated their equipment, maps, displays and dosimetry kits. The equipment in the EOC was phones, two-way radios, CB radio, fax, handheld radios and a ham radio. The facility had evacuation maps, Radiological Emergency Status Board, Emergency Planning Zone (EPZ) map and a Protective Action Recommendation chart. They had a status board that was updated after each action. The status board was projected onto a wall so that it was visible to all staff and staff members were kept up to date at all times.

The Dosimetry Kits were opened, inspected, and set up, and the expiration dates checked, by the two Radiological Officers in the EOC. The Radiological Officers inspected Emergency Worker Dosimetry Packets, CDV 750 model 6 Instrument Kits (including two handhelds) and CDV 750 IEH model 5B (dated 6/1/2012). In the Emergency Worker Dosimetry Packet the Radiological Officer checked the 0-200 mR Direct Reading Dosimeter (DRD) and 0-20R DRD (0-5R), and the Emergency Worker Luxel Landoier (TLD) serial number 2104 dated 12/12-12/13. The Radiological Officer checked the equipment and batteries. The Radiological Officer zeroed the Direct Reading Dosimeters. KI was included in the packets. There were 36 packets with 14 tablets per package. The KI expiration date was 8/1/2014.

All equipment for traffic and access control were located in the rear of the parking lot with the Department of Public Works.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.a.1:

The staff at the Marshfield Emergency Operations Center (EOC) issued appropriate dosimetry and KI, and managed radiological exposure to emergency workers, during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013.

The Radiological Officers in the EOC issued the Dosimetry Kit. In the Emergency Worker Dosimetry Packet the Radiological Officer checked all the dosimetry equipment including the CDV 750s, both low and mid range Direct-Reading Dosimeters (0-5R and 0-200mR), the Dosimetry Life Record Permanent Record (Luxel Landauer serial # 2104 dated 12/12-11/13), and Potassium Iodide (KI) and the Instruction Sheet for the Packet. The Radiological Officer zeroed the Direct Reading Dosimeters.

The emergency worker received both a 0-5R Direct-Reading Dosimeter, and a 0-200mR Direct-Reading Dosimeter, a Dosimetry Life Record Dosimeter and the Instruction Sheet for the Packet. The radiological officer recorded all of the appropriate information on the Dosimetry Report Form.

She advised emergency workers on all aspects of the dosimetry kit. The emergency workers received instruction on how to read the Direct Reading Dosimeter (DRD) and to check it every 15-30 minutes. The emergency workers were advised to report any readings at 100mR, 175mR and at additional 1R increments thereafter and not to exceed 175mR until authorized by the Massachusetts Department of Public Health. Through interview with the FEMA evaluator, the emergency workers demonstrated that they understood all of the radiological officers' instruction and signed the radiological briefing acknowledgement form.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.b.1:

Potassium Iodide (KI) for the general public or institutional individuals was not stored at or dispensed from the Marshfield Emergency Operations Center (EOC).

However, the Town of Marshfield demonstrated the capability to make KI available to the general public within the 10-mile Emergency Planning Zone (EPZ) of the Pilgrim Nuclear Power Station (PNPS). This capability was not applicable to institutionalized individuals as there were no institutional facilities within the Marshfield portion of the 10-mile EPZ.

The Emergency Management Director (EMD) at the Marshfield EOC explained that the decision to dispense KI to the general public and the decision to notify the general public to ingest KI was the responsibility of the Massachusetts Department of Public Health (MDPH), and that notifications to dispense and ingest KI would emanate from the MDPH.

The EMD further stated that page 18 of the 2013 Emergency Public Information Calendar for the PNPS contained information advising readers that free-of-charge KI was available from their local Board of Health or by asking at their local pharmacy, and that additional dispensing sites were located in Milton and Brockton, Massachusetts. The EMD said the Marshfield Board of Health maintained KI for the general public, along with instructions for taking KI. He did not know if the local pharmacies did.

The MDPH decision to authorize the general public in the 10-mile EPZ to ingest KI was received at the Marshfield EOC at 1144. The EMD directed that the Board of Health was immediately told of the MDPH decision and that EOC staff sections communicate that message within their functional constituencies.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.1:

The Marshfield Emergency Operations Center (EOC) demonstrated the capability to implement protective action decisions for persons with disabilities and access/functional needs, other than schools, within the Town of Marshfield's portion of the 10-mile Emergency Planning Zone (EPZ) for the Pilgrim Nuclear Power Station (PNPS). The EOC Special Needs, Transportation and Town Shelter desks were the principal coordinating desks for this criterion.

There were no special population facilities within Marshfield's portion of the 10-mile EPZ.

A total of six special population individuals were listed on the Marshfield Special Needs Individuals List. Initial contact (per the extent-of-play agreement) with five of the six individuals was made between 0855 and 0910, during the Alert Emergency Classification Level (ECL). Each was apprised of the situation and that they would be further informed if the situation changed. Each was also asked if they needed any assistance should they be required to

be transported out of the EPZ. Requests for transportation (non-mobility impaired) came from two individuals. These requests were passed to the Transportation desk for further coordination. The sixth and last person's telephone was answered by an operator's recording stating that the phone had been disconnected. At 0910, the Special Needs desk asked the Police desk to dispatch an officer (simulated) to the last person's residence to determine whether or not he or she was at home. At 0925, the Police desk relayed that the officer found no one at the house. Subsequent notifications of ECL changes to the five persons with telephone service were made (simulated) after reaching the Site Area and General Emergencies. A police detail was dispatched (simulated) to the sixth house each time as well, with negative results.

The Shelter desk began notifications at 0920 to two facilities identified to support sheltering, if needed – principally for transient individuals without transportation. Initial contact (simulated) was made with the Assumption Church (capacity 1,010 persons) and Saint Ann's by the Sea Church (capacity 680 persons). Each was advised of the situation, with further notifications as necessary to follow, and was asked to stand-by for contingency shelter operations. The EMD was informed that both shelters were available by 0945.

At 1015 (during the Site Area Emergency), the Transportation desk was notified (simulated) by the Massachusetts Emergency Management Agency (MEMA) Region II that the Marshfield Transportation Staging Area (TSA) at the Martinson Middle School was operational. Equipment on-hand (simulated) included 30 buses, 14 lift vans, and 10 ambulances. A standby request to transport two non-mobility impaired individuals was made to the TSA at that time.

When ordered from the EOC, the Marshfield Emergency Bus Route, taking general and transient populations to the Braintree Reception Center, would have run as shown on page 14 of the 2013 Emergency Public Information Calendar for the PNPS.

No transportation shortfalls were encountered during the exercise. The Transportation Officer said that MEMA Region II would have been contacted had shortfalls occurred.

The Protective Action Decision received at 1144 (during the General Emergency) to Shelter-in-Place Sub Area 10 (Marshfield's portion of the 10-mile EPZ) generated no requests for assistance from the special populations supported from the Marshfield EOC.

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

Criterion 3.c.2:

Implementation of protective actions for schools was successfully demonstrated at the Marshfield Emergency Operations Center (EOC).

One public school, no private schools, no parochial schools and no licensed day care centers were located within that portion of the 10-mile Emergency Planning Zone (EPZ) in the Town of Marshfield. The name of the one public school was the Governor Winslow Elementary School (445 students, 60 staff and faculty).

The Schools desk at the EOC was staffed by members of the Marshfield School District. At 0900 (Alert Emergency Classification System (ECL)), the Superintendent of the Marshfield Schools District was notified (initial call, per the extent-of play agreement) and briefed on the situation at the Pilgrim Nuclear Power Station.

Resulting from that call, the Schools desk said that the Superintendent was to perform the following actions: contact and instruct (simulated) the Principal of the Governor Winslow School to prepare the school, in accordance with the school emergency plan, for further response actions; instruct the District Transportation Officer to assemble and dispatch sufficient Marshfield-owned buses (13) to the Governor Winslow School in the event the school's students and staff were to be transferred to a host school (Marshfield's Furnace Brook Elementary School); direct the District Office prepare to contact those schools outside the 10-mile EPZ with students enrolled from within Marshfield's portion of the 10-mile EPZ and request that they hold those students until their parents/guardians come to pick them up; and direct the District Office to prepare to use Connect-Ed, the multi-media electronic notification system, to notify the parents/guardians of Governor Winslow students that their child has been transferred to the Furnace Brook Elementary School and will remain there until they pick the child up.

Emergency Alert System (EAS) Message No. 1, received at 1012 during the Site Area Emergency ECL, instructed the precautionary transfer of schools within the 10-mile EPZ. This was passed to the Superintendent's Office immediately. All four contingency actions prepared by the District Office were simultaneously executed (simulated).

No shortfalls in transporting the Governor Winslow School staff and faculty and students

occurred. The Schools desk said that any shortfalls would have been immediately passed to the Transportation Desk.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, extent-of-play agreement.

Criterion 3.d.1:

The implementation of traffic and access control was successfully demonstrated at the Town of Marshfield Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013. Per the extent-of-play agreement, all coordination, direction and monitoring of traffic control operations was performed through interview with the evaluator. The Police and Department of Public Works (DPW) desks were the principal EOC participants.

In accordance with the Town of Marshfield Radiological Emergency Response Plan (RERP) for PNPS, Rev.21, 02/12, traffic control activities began at the Marshfield Police Station at 0831 when the Alert Emergency Classification Level (ECL) phase was received. The Alert notification caused the Dispatcher to contact (simulated) all Marshfield police officers and place those not on-duty on standby. At that time, the DPW was also notified of the Alert.

The Police and DPW desks at the EOC were staffed shortly before 0900. Both desks had diagrams for each traffic and access point (TACP) in the Town Marshfield that included the personnel, vehicular, and material resources needed at each TACP. The Police desk began tasking the Police Station to identify and recall (simulated) staff for 16 of the 18 TACPS in Marshfield. The Massachusetts State Police operated the other two points. Of the 16 Marshfield Police TACPs, nine were staffed by a police officer. The other seven were unstaffed (established using combinations of signage and barrier devices). Concurrently, the DPW desk coordinated loading (simulated) a DPW truck at the DPW garage with TACP support equipment pre-identified to support establishment of each TACP. The Police and DPW desks estimated the ramp-up activities were completed by 0940.

The nine police officers selected for TACP duty reported (simulated) to the EOC shortly after the Site Area Emergency ECL notification was received at 0947. At that time each was given a diagram(s) of his/her TACP(s), as described above. In addition to staffing an assigned TACP, some officers were responsible for establishing one or more unstaffed TACPs. An operational

briefing was then given covering the functions of the TACP (including directing exiting traffic out, preventing entering traffic in; knowing the directions to Reception Center for exiting traffic; and to report to the Emergency Worker Monitoring and Decontamination Point at the Erwin K. Washburn Elementary School in Carver upon completion of his/her TACP duty). The officers were then referred to the Radiological Officer for issuance of, and briefing on the use of, emergency worker exposure control equipment. Following that, the officers were directed to deploy to their assigned TACP, report their arrival and standby to establish their TACP(s) when ordered. All officers reported from their assigned locations by 1045. Similarly to the police officers, the crew of the DPW TACP support truck was given an operational briefing and an emergency worker exposure control equipment issue and briefing before leaving the DPW garage at 1030.

The Harbormaster desk reported that, in conjunction with the U.S. Coast Guard, a security zone had been established (simulated) in Sub Area 12 – keeping vessels out of that portion of the 10-mile Emergency Planning Zone for the PNPS in the Town of Marshfield.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, extent-of-play agreement.

Criterion 3.d.2:

Impediments to evacuation were identified and successfully resolved at the Town of Marshfield Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013. Per the extent-of-play agreement, this criterion was demonstrated through interview with the evaluator. The Police and Department of Public Works (DPW) desks were the principal EOC participants.

At 1123, during the General Emergency, a Controller inject was given to the Police Desk. The inject stated that an impediment to evacuating traffic had developed at the intersection of Ocean and Webster Streets that effectively closed the intersection to traffic. No other details were given. When questioned by the Police desk, the Controller said it was a traffic accident that did not involve fatalities, injuries, or a medical, fire or hazardous material response.

Based on the above, the Police desk notified the Emergency Management Director (EMD) of the impediment. He then summoned the DPW desk to coordinate re-routing of evacuating traffic approaching the intersection of Ocean and Webster Streets and to remove the traffic impediment.

A police vehicle was also radioed to confirm that the intersection's impediment was as described. Had the impediment also involved other priority aspects such as fatalities, injuries, or medical, fire and/or hazardous materials, other EOC desks would have become involved.

The Police and DPW quickly identified an effective alternate route that could accommodate evacuating traffic until the intersection of Ocean and Webster Streets was reopened. The alternate route was to direct evacuating traffic approaching the intersection from the east (on Ocean Street) to turn left onto Parsonage Street; remain on Parsonage until turning right onto Moraine Street (Route 3A); remain on Moraine until turning left onto Ocean Street to resume the evacuation route. Evacuating traffic approaching the intersection from the south (on Webster Street) was to turn left on Parsonage until turning right onto Moraine; remain on Moraine until turning left onto Ocean Street to resume the evacuation route. Police details were rapidly assembled and dispatched (simulated) and the alternate route was in operation by 1140.

The Police Department maintained contracts with two local towing service providers. In the case of this impediment, the Police desk said that they would have used those contracts, and estimated that the traffic impediment would have been resolved by 1200.

To remove larger impediments, the DPW stated that its resources included eight 16-ton dump trucks, two front end loaders and assorted smaller vehicles, and that the Massachusetts Emergency Management Agency Region II would be contacted to fill DPW equipment shortfalls.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, extent-of-play agreement.

Criterion 5.b.1:

The Marshfield Emergency Operations Center (EOC) provided accurate emergency information and instructions to the public and news media in a timely manner during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013. Based on input from the Emergency Management Director and the EOC Staff, the Public Information Officer (PIO) produced three press releases during the exercise. Each press release was signed by the Marshfield Selectman at the EOC and was faxed to the Massachusetts Emergency Management Agency (MEMA) PIO for compilation into Massachusetts News Releases.

The contents of Press Release No. 1, signed at 0930, during the Alert Emergency Classification Level (ECL), included the following: An Alert had been declared at the Pilgrim Nuclear Power Station (PNPS); as a precaution, all persons were requested to leave recreational areas in Marshfield; there was no threat to public safety at that time; recreation areas in Brant Rock and Green Harbor were closed, to include Green Harbor Beach, Brant Rock Center and beaches, and the Marshfield Town Pier; and residents and visitors should stay tuned to the emergency alert system (EAS) radio station (call letters and frequency of each of the five stations were listed).

The contents of Press Release No. 2, signed at 0955, during the Site Area Emergency (SAE), included the following: A SAE ECL had been declared at the PNPS at 0944: public shelter location have been placed on standby; residents and visitors should stay tuned to the EAS radio station (call letters and frequency of each of the five stations were listed); school children at the Governor Winslow Elementary School were being transferred to the Furnace Brook School as a precaution; recreational areas in Brant Rock and Green Harbor have been closed; and restaurants in Brant Rock and Green Harbor have been ordered to close.

The contents of Press Release No. 3, signed at 1150, during the General Emergency ECL, included the following: residents with special needs will continue to be notified of the emergency and actions to take; persons requiring special emergency assistance may call the Marshfield EOC at 781-837-7111; residents and visitors should stay tuned to the EAS radio station (call letters and frequency of each of the five stations were listed); and Sub Area 10 has been ordered to shelter-in-place.

Two Massachusetts News Releases were received at the Marshfield EOC during the exercise.

The contents of Massachusetts Release No. 1 pertaining to Marshfield, received during the SAE ECL at 1124, included the following: the precautionary transfer of the Governor Winslow School to the Furnace Brook School and that parents/guardians could pick their children up there; the parents living within the 10-mile Emergency Planning Zone (EPZ) whose children attended a school outside the EPZ may pick the children at that school; boaters were asked by the harbor masters and the U.S. Coast Guard to clear the waters within the 10-mile EPZ; persons knowing neighbors or co-workers with language problems were requested to ensure those persons were aware of the emergency situation and understood what they should do; residents and visitors should stay tuned to the EAS radio station (call letters and frequency of each of the five stations were listed); persons with questions or concerns could dial 2-1-1; and information

found in the Emergency Information Calendar can also be found at www.mass.gov/mema).

The contents of Massachusetts News Release No. 2 pertaining to Marshfield, received during the General Emergency (GE) at 1250, included the following: Sheltering-in-place was directed for all persons in Sub Area 10 (south of Route 139/Carswell Street-Dike Road); instructions on what to do to shelter-in-place; Massachusetts Department of Public Health recommended that farmers and dairy operators in Sub Area 10 take actions to protect animals and food supplies (specific actions were enumerated); persons knowing neighbors or co-workers with language problems were requested to ensure those persons were aware of the emergency situation and understood what they should do; residents and visitors should stay tuned to the EAS radio station (call letters and frequency of each of the five stations were listed); persons with questions or concerns could dial 2-1-1; and information found in the Emergency Information Calendar can also be found at www.mass.gov/mema).

No media briefings were planned or held at the Marshfield EOC.

Throughout the exercise, a Rumor Control cell functioned under the supervision of the PIO at the Marshfield EOC. A total of six calls were received (all from an exercise simulation cell). Two were from media persons, at 1030 (SAE) and 1200 (GE). Each caller was given the Media Inquiry Line telephone number to call. The other four calls came at 1032 and 1037 during the SAE, and at 1156 and 1204 during the GE. Each was local in nature (Must I evacuate? Must I take KI? Concerned about mother in Plymouth. Is the water supply safe?) Answers to callers' concerns were appropriate. Each call was asked to call back if other concerns arose and advised that Mass 2-1-1, the Emergency Information Calendar, and WATD, 95.9 FM were available for further assistance. No trends were reported to the MEMA Rumor Control Office.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 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.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None

- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.5 Plymouth Local EOC

Criterion 1.a.1:

The Plymouth Emergency Management Director (EMD) used effective procedures to alert, notify, and mobilize emergency personnel and activate the Plymouth Emergency Operations Center (EOC) in a timely manner.

At 0832, the Plymouth Police Department (24 Hour Warning Point) Dispatcher received notification through the Dedicated Notification Network (DNN) of an Alert Emergency Classification Level (ECL) at the Pilgrim Nuclear Power Station (PNPS). This audio, automated phone call was followed up by the initial fax notification form at 0833. At this time the Plymouth Police Dispatcher informed her supervisor in the dispatch center and was directed to begin notifications of key town officials. In addition an all call broadcast to all on shift police officers was made informing them of the situation. This provided outstanding situational awareness for those officers on the road of the drill and put them in a position to render aid if called upon to those responding to the EOC.

At 0851 the Plymouth Police Dispatcher completed notifications of key town personnel to report to the EOC where the EMD was notifying other support staff of the situation and requesting they report to the EOC. At 0920 the EOC was declared operational.

As the event escalated, messages and notifications were received, logged and passed along for action to stakeholders by the EOC communications staff

A staffing white board was established with the current shift's staffing pattern and the shift relief that would be used for 24hr staffing.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 1.b.1:

The Emergency Operations Center (EOC) for the Town of Plymouth was recently relocated from a joint Emergency Operations Facility (EOF)/Emergency Operations Center on Obery St in Plymouth to a new exclusive use facility at 2209 State Road in Plymouth below the Plymouth Fire Department's Cedarville Fire Station.

This Americans with Disabilities Act Compliant facility is located in an access controlled space encompassing a large Emergency Operations Center Floor, two offices, a garage, a

communications room, kitchen/break room, server and mechanical room, work space for administrative functions and a large meeting room for town leadership to gather. This room is well lit with adjustable lighting, properly regulated temperatures with adequate heating, ventilation and air conditioning (HVAC) and acoustically conducive to its role as the EOC. Admittance to the facility is primarily through one door located adjacent to a security checkpoint near the main entrance and visitors must be either screened and buzzed in or have an electronic key card for access. Other doors for emergency egress are kept permanently secured to control access. In this initial entry way is space for a Xerox copier, administrative space, a sign in desk and large whiteboard for staffing rosters.

Adjacent to this space is a large conference room with adequate audio visual displays, phones and supporting materials designed to provide key town leadership with space to debate and make decisions to be implemented on the EOC floor.

Within the main EOC space, adequate furnishings are present including approximately 20 work stations containing a desktop computer with monitor, landline telephone and sufficient office supplies to support operations. At the front of the room are two large projection screen/smart boards that maintain a common operational picture by displaying relevant webEOC status boards and images. On either side of these large displays are two big screen ViewSonic LED televisions that receive commercial broadcast television signals. One large wall is taken up by two white boards that were updated with relevant information and timelines by the situation unit. Also in varied places were EPZ maps, traffic and access control maps, standard topographic and administrative maps and marine charts.

Off this main floor are two administrative offices for full time EOC staff that can be used as meeting space, a kitchen and break room with a refrigerator, coffee maker, dish washer and microwave oven, auxiliary equipment spaces and the communications section.

Within the communications section room, multiple radios for communicating with town departments, county and state level organizations and amateur radio stations were active and operational including the Dedicated Notification Network Phone and Fax system, BECONS mutual aid radio, UHF and VHF two way radio (base and portable) communications systems, marine band radio, 800Mhz radio, and a Teletypewriter (TTY) system.

Located within the footprint of an existing fire station and available to responders operating in the EOC were adequate male and female restrooms, cots able to serve as overnight temporary housing for responders, and shower facilities.

The facility was also adequately supported with Information Technology Infrastructure including wireless internet, hardwired phones, reception for multiple commercial cell phone signals, a limited number of un-interrupted power supply (UPS) supported outlets, adequate portable radio

reception and hardwired radio connections. The UPS system that supports the facility is capable of up supplying power to critical infrastructure for up to six hours.

Outside the facility, adequate parking and handicap parking exists to accommodate a full activation of the EOC, including enough surge parking to accommodate the additional cars expected during a shift change.

The entire office complex is served by a large Cummings backup generator with an approximately 300 gall fuel tank capable of powering operations throughout the complex and with a standing maintenance and fuel contract with local vendors in place.

The facility was set up and operated in accordance with the Plymouth EOC's plans and procedures and the new facility adequately met the needs of the operational period.

Criterion 1.c.1:

The Plymouth Emergency Management Director provided and maintained strong direction and control during the Pilgrim Nuclear Power Station exercise on March 21, 2013, providing staff with situational awareness, as well as information and instructions specific to their emergency operations center assignments and responsibilities.

Staff briefings were conducted by the Emergency Management Director to both the Emergency Operations Center (EOC) staff and the Unified Command located in an adjacent policy room. Briefings were conducted as warranted based on changing information or Emergency Classification Levels (ECL) and occurred at 0920, when the facility was declared operational, and subsequently at 1000, 1048, 1105, 1103, and 1240 as declarations of emergency was issued, there were changes to the ECL, sirens were sounded, Protective Action Recommendations or Decisions were made and other updates became available.

At 1000 the EMD directed and briefed the EOC staff that Sirens 38 & 39, located in a remote and isolated portion of town, would be sounded to begin a precautionary transfer of residents and visitors in that part of town. Unfortunately this messaging coincided with a state-wide activation of all EPZ sirens directed at 1001 and lead to confusion related to the sounding of sirens that is described in the issue associated with this criterion.

Plans and procedures were made available to all staff and were frequently referenced and used throughout the exercise. This was a strong point in the exercise as EOC staff were able to walk through their procedures by the numbers as called for based on the checklists provided for the

current ECL, giving each staff member a strong reference and prompting interpersonal coordination and communication with other players to properly implement called-for actions. Message logs and forms were also maintained and distributed throughout the exercise providing documentation to back up and make a matter of record conversations that took place between players.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 1.d.1:

Two communications systems were available in the Emergency Operations Center, which included the Dedicated Notification Network (DNN) phone and fax system, the BECONS radio system capable of communicating with other towns and governmental administrative units and 800Mhz radio as a backup means. During the exercise, the Communications Officer established communications checks with the State EOC and the local EOCs using both the primary and backup means for communication.

Standard commercial landline and fax were also available and operational and as a last resort Amateur Radio Emergency System (ARES) radio operators were available and in communication with other local EOC's and Massachusetts Emergency Management Agency Region II Office in Bridgewater MA to pass and receive message traffic if needed. Throughout the exercise all communications were clear and easily understood.

All systems were used, tested and demonstrated as being operational and all activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent of play agreement.

Criterion 1.e.1:

The Town of Plymouth Emergency Operations Center (EOC) successfully demonstrated that equipment, maps, displays, monitoring instruments, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations during the Pilgrim Nuclear Power Station exercise on March 22, 2013.

The Plymouth EOC staff had the displays and equipment listed below available for their use.

Displays:

- Emergency classification status
- Significant events/emergency details
- EOC staffing

- Maps of the 5- and 10-mile EPZ
- Posters of the plant emergency classification levels
- Traffic and access control points
- Television monitors
- Large whiteboards with EOC specific notable events listed
- Projection Screens displaying webEOC data.

Office equipment and supplies:

- Computers and telephones at each functional station
- Printer/copier
- Fax machine
- Tables, desks, and chairs
- Office supplies

The EOC had a supply of dosimetry and potassium iodide (KI) on hand adequate for the EOC staff, along with additional materials used to create dosimetry packets. Items in each packet included a low-range direct-reading dosimeter (DRD), a high-range DRD, a permanent record dosimeter, and potassium iodide (KI) tablets. The combination of low-range and high-range DRDs allows emergency workers to read all of the exposure limits specified in the plans and procedures. The dosimetry calibration dates and KI expiration dates are documented in the Annual Letter of Certification the Commonwealth of Massachusetts previously submitted to the Federal Emergency Management Agency.

Traffic and access control equipment (i.e. barricades, barrels) is provided by the Department of Public Works (DPW). This equipment is stored at the DPW facility. Additional equipment is available from the Massachusetts Department of Transportation if needed.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 3.a.1:

The Town of Plymouth Emergency Operations Center (EOC) successfully demonstrated the ability to manage radiological exposure to emergency workers in accordance with the plans and procedures during the Pilgrim Nuclear Power Station exercise on March 22nd 2013

Upon reporting to the EOC following the Alert declaration received at 0834 hours, the Radiological Officer (RO) reviewed his plans and procedures, then inventoried the EOC dosimetry kit and zeroed the direct-reading dosimeters (DRDs). The RO prepared dosimetry

packets for distribution from the temperature controlled storage locker at the EOC. Each packet contained the following items: a low-range DRD, a high-range DRD, a permanent record dosimeter, an emergency worker exposure form, a neck chain, a 130mg potassium iodide (KI) tablet, a KI information sheet, and a dosimetry instruction briefing card. The calibration dates of the dosimetry are documented in the Annual Letter of Certification previously submitted to the Federal Emergency Management Agency.

The RO issued dosimetry packets to 5 emergency workers at the EOC consistent with the extent-of-play agreement. He also reviewed the dosimetry instruction briefing card with each individual who received dosimetry. No field emergency workers are dispatched from the EOC, however through interview, the ESF-4 (Fire) and ESF-13 (Police) representatives described their plans, policies and procedures for distributing dosimetry packets to on duty personal deployed to the field.

Following the declaration of General Emergency received at 1127, the RO briefing covered reading DRDs every 15 minutes, reporting limits, and the return of dosimetry at the end of the exercise; in addition the ROD referred female emergency workers to the Emergency Worker Exposure form for additional pertinent information. From this point forward, the replacement RO made an announcement every 15 minutes to review reporting limits and remind all persons present in the EOC to read their dosimetry. Upon inspection of one low range DRD and one high range DRD, the evaluator found both properly zeroed and fit for service.

The instructions regarding exposure limits given in the plans and presented to emergency workers on the dosimetry instruction briefing card as well as during verbal briefings are as follows:

- Emergency workers will read their DRDs upon issuance and record the initial readings on the Emergency Worker Exposure Form.
- Emergency workers report a DRD reading of 100 milliroentgen (mR) on their 0-200 mR DRD to the RO.
- Emergency workers will make their next DRD report if they observe a DRD reading of 175 mR. 175mR is the initial DRD limit which cannot be exceeded without Massachusetts Department of Public Health (MDPH) approval.
- The DRD limit for all emergency workers may be adjusted by MDPH during the emergency. If this occurs, emergency workers will continue to report DRD readings at 1R increments on their 0-20 DRD up to the new limit.

Through interviews, two of the emergency workers present in the EOC demonstrated an understanding of the purpose of the dosimetry they had been issued, that they should read their dosimetry every 15 minutes, and that they should notify the RO if any of their readings reached

the reporting limits. They also understood the information to be recorded on the Emergency Worker Exposure form and knew to return their dosimetry to the RO at the end of the exercise.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 3.b.1:

The Town of Plymouth Emergency Operations Center (EOC) successfully demonstrated the ability to provide KI and appropriate instructions to emergency workers should a decision to recommend use of KI be made during the Pilgrim Nuclear Power Station exercise on March 21st 2013. The Town of Plymouth is only responsible for distribution of KI to emergency workers under the direction and control of town authorities and is not responsible for distribution of KI to the general public or institutionalized individuals housed within the boundaries of the town. Upon reporting to the EOC following the Alert declaration received at 0832 hours, the Radiological Officer (RO), a Plymouth Fire Fighter, reviewed his plans and procedures, then accessed the temperature controlled storage locker that contained dosimetry equipment and inventoried then distributed dosimetry packets that contained potassium iodide (KI) tablets, a KI information sheet, and an Emergency Worker Exposure form with spaces to record ingestion of KI as per the extent of play. Plans call for these forms to be collected by the RO after an incident to document individuals who have taken KI. The EOC KI inventory quantities and expiration date are documented in the Annual Letter of Certification previously submitted to the Federal Emergency Management Agency and were in date and valid during this exercise.

Following the declaration of General Emergency and notification received at 1142 of protective actions including the use of KI by emergency workers, the RO conducted a briefing that was not from the current approved briefing card. This briefing did not include key components such as potential adverse reactions to KI if ingested by personal with certain pre-existing medical conditions or allergies.

The Police, Fire and Transportation officers relayed the decision and KI Recommendation to their dispatchers and staging area, respectively, for communication and implementation by field personnel from their pre-staged dosimetry and KI stockpiles.

Through interviews, both the ESF-4 Firefighter and ESF-13 Police representative stated that KI was stored in accordance with instructions on the labels and would be distributed through their respective departments to personnel in the field prior to there deployment.

Interviews were also conducted with two of the emergency workers present in the EOC who

were issued dosimetry per the extent of play and they successfully demonstrated an understanding of the purpose of the KI they had been issued, that ingestion is voluntary, and that ingestion should be recorded on the Emergency Worker Exposure form.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 3.c.1:

The Plymouth Local Emergency Operations Center (EOC) demonstrated the capability to provide protective action recommendations and emergency information and instructions to special populations in accordance with plans and procedures. The Board of Health Representative contacted nursing homes, group homes, hospitals, special facilities, and children's camps. The Special Needs Officer contacted special needs individuals.

Contact with special facilities was actual for initial contact, and simulated for follow-up contact as per the extent of play (EOP) agreement. Contact with special needs individuals was simulated as per the EOP agreement. However, a list of special needs individuals was shown to the evaluator. The capability to operate a TTY was demonstrated. Contact was not made with transportation providers as per the EOP agreement.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and EOP agreement.

Criterion 3.c.2:

Implementation of protective actions for schools and daycares was satisfactorily demonstrated at the Plymouth Local Emergency Operations Center (EOC). There was an order for the precautionary transfer of students soon after the Site Area Emergency (SAE) Emergency Classification Level (ECL) declaration. The Plymouth Public Schools representatives in the EOC called the Central Office. The Central Office then contacted each school for information regarding student population and transportation needs. The schools, daycares, and camps located within the Emergency Planning Zone (EPZ) for Plymouth include the following:

- Crayon College, Garden of Knowledge, Leaping Frogs Preschool, Learning Safari, Miss Joanne's Bright Beginnings, Rising Tide Public Charter School, Room 2 Grow, Tiny Town Children's Center, Small Scholars Preschool, Hop Skip and Jump Inc., Com Care TAP Program, Pilgrim Academy, Camp Squanto, Camp Bournedale, Camp Cachalot, Camp Massasoit, Camp

Wind in the Pines, and Old Colony WMCA Program.

The schools were evaluated during an out of sequence exercise. The school district took the precautionary protective actions to transfer students. The Plymouth School representative stated that notification to parents was made by reverse 911. The Taunton EOC was notified to prepare host schools to receive the transferred students.

The school would evacuate the students to host schools in accordance with plans and procedures, and had sufficient buses available for transportation. Bus drivers would be notified by the Transportation Officer and they would report to the Transportation Staging Area. The bus drivers were provided directions to the host schools. The buses were equipped with radios.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent of play agreement.

Criterion 3.d.1:

The ability to provide appropriate traffic and access control was adequately demonstrated at Plymouth Local Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013. The Traffic and Access Control Points (T/ACPs) were identified, staffed and established in a timely manner for the affected areas. The T/ACPs to be established had been pre-identified within the plans and procedures. The T/ACPs were established at 1048. Access for water transportation was restricted following contact with Harbormaster.

T/ACP personnel were interviewed and they were aware of their responsibilities for restricting and controlling access to the affected areas. The T/ACP personnel were aware of the reception center locations and also the Emergency Worker Decontamination location. Maps were not available for hand out to evacuees identifying the location of the reception centers, but the T/ACP personnel would direct evacuees to the reception center locations.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent of play agreement.

Criterion 3.d.2:

The capability to identify and take appropriate actions concerning impediments to evacuation

was adequately demonstrated by Plymouth Local Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013. Impediments to evacuation were identified through controller inject. Traffic was rerouted from Route 3 to Exit 5 to Route 3A, then directed to travel north along Route 3A to Exit 9. The rerouted traffic would continue along the designated evacuation route. The Joint Information Center (JIC) was notified. This notification was simulated through discussion.

The Department of Public Works was available to assist in impediment removal. Impediments were removed in a timely manner. Fire and Emergency Medical Services personnel were simulated to be dispatched to the vehicle accident, and the vehicles were simulated to have been removed from the evacuation route.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent of play agreement.

Criterion 5.a.1:

The Plymouth Local Emergency Operations Center (EOC) completed activities associated with primary alerting and notification of the public in a timely manner during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The Plymouth EOC satisfactorily demonstrated the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas throughout the 10-mile plume Emergency Planning Zone (EPZ). Following the decision to activate the alert and notification system, activation of the system was accomplished in a timely manner. The primary responsibility for alert and notification of the public was with the Massachusetts State EOC (SEOC). The Plymouth Local EOC had the capability to sound the sirens as a backup to the SEOC, should a failure occur at the SEOC. At 0958, the Plymouth Emergency Management Director (EMD) directed the Communications Officer to demonstrate the capability to activate the voice function of sirens #38 and #39 to warn residents on the peninsula. The initial message was transmitted following the alert signal. The siren was simulated in the Communications Room, and it preceded transmission (simulated) of the instructional message. The instructional message contained all of the elements required by current FEMA REP Guidance.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent of play agreement.

Criterion 5.b.1:

The provision of emergency information and instructions for the public and media was successfully demonstrated at the Plymouth Local Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

Public information issued by the Massachusetts Emergency Management Agency (MEMA) after the initial Emergency Alert System (EAS) was accurate, timely and consistent with Protective Action Directives (PADs) and Emergency Classification Levels (ECLs). The information did include instructions to evacuate or shelter in place. Evacuation routes and reception center locations were included in the Massachusetts News Release from MEMA. Information on schools, person with disabilities and access/functional needs (hospitals, nursing homes, correctional facilities, licensed daycare centers, mobility-impaired individuals, and transportation-dependent individuals), and pets was provided. Public Inquiry telephone numbers were provided. Radiological emergency preparedness-specific emergency information was referenced. EAS messages and supplemental emergency information were issued in a timely manner.

The Plymouth Local EOC was to receive news releases from the Joint Information Center (JIC) by fax in order to verify the information. However, after the Plymouth Public Information Officer (PIO) provided a local media release to the JIC at 1000 informing of the Plymouth Local Declaration of State of Emergency, it was determined that the JIC had not forwarded any press releases to the Plymouth Local EOC. At 1114, MEMA Region II was contacted and requested to provide all prior news releases in addition to any updated news releases. The news releases were received by the Plymouth Local EOC at 1137. The 1000 local media release forwarded to the JIC from the Plymouth Local EOC was the only local media release issued by Plymouth Local EOC; all other press releases were sent from the JIC and were verified for accuracy.

During the EOC briefing after the declaration of General Emergency, the Plymouth Emergency Management Director (EMD) directed the EOC staff to prepare to receive public inquiries for information and to notify him should any inquiries be received. No inquiries were received. Media monitoring was performing by viewing news channels on the large projection screens mounted on the wall of the EOC's main room.

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.b.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.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: 1.c.1, 3.b.1.

ISSUE NO.: 48-13-1c1-A-01

CRITERION: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

CONDITION: At 10:00 the Plymouth Emergency Management Director (EMD) ordered the sounding of Sirens 38 & 39, two sirens located in remote portions of the town that would take additional time to evacuate should an evacuation be ordered at a later date. This precautionary evacuation of this remote area is accomplished by the Town-level activation of two sirens and an audio message being broadcasted ordering the evacuation of the area. While this was in progress, the Commonwealth of Massachusetts (State) at 10:01 issued an Emergency Action Directive Form announcing the state activation of EPZ-wide sirens. The messaging that there was a EPZ-wide activation of sirens by the State at 10:12 was not known by EOC leadership, staff or other first responders and subsequently not communicated or acted on.

POSSIBLE CAUSE: This issue could possibly have stemmed from the close timing of the Town-activated and initiated sounding of the audio function on Sirens 38 & 39 at 10:00 (located in remote sections of the town and reported to the state) and the state activation of all sirens town-wide at 10:12. There is the possibility that the term "siren" and each party acknowledging the others' siren-related messages lead to internal confusion and communications breakdown as each party believed that the other understood the siren activation being referred to. Evidence to support this includes the local marking of the Emergency Action Directive Form "Saquish & Gurnet", opening the possibility that the EOC communications staff believed that the Emergency Action Directive Form was solely intended to communicate the decision to activate Siren 38 and 39 that was already announced in the EOC at 10:00.

REFERENCE: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654/FEMA-REP-1, A.1.d; A.2.a, b; A.3; C.4, 6)

EFFECT: This would have led to confusion on the part of first responders and emergency workers when there was a town-wide siren activation that town leadership in the EOC was not expecting or aware of and potential actions that were then required to be implemented. It would potentially have minimum impact on the public who would not have full visibility on the internal communications breakdown between the State and Town regarding the two siren activations.

RECOMMENDATION: The Town of Plymouth should consider changing the nomenclature by which they describe the use of the locally-initiated audio functions of Siren Stations 38 & 39 located in remote, not easily accessible, areas of the town in order to preclude future confusion with a locally-initiated sounding of sirens and a state activated EPZ wide activation.

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CRITERION: KI and appropriate instructions are made available in case a decision to recommend use of KI is made. Appropriate record keeping of the administration of KI for institutionalized individuals and the general public is maintained.

CONDITION: The Radiological Officer (RO) in the Emergency Operations Center (EOC) used an outdated briefing card when providing a Potassium Iodide (KI) briefing to Emergency Workers in the EOC. This briefing card did not contain the required language regarding potential hazards that KI poses to those with pre-existing medical conditions or allergies.

POSSIBLE CAUSE: There were multiple versions of the KI briefing package contained within the Dosimetry Equipment in use.

REFERENCE: KI and appropriate instructions are available if a decision to

recommend use of KI is made. Appropriate record-keeping of the administration of KI for institutionalized individuals is maintained. (NUREG-0654/FEMA-REP-1, J.10.e, f)

EFFECT: This could have resulted in a potentially life threatening situation if a emergency worker with a pre-existing medical condition or allergy was to ingest KI without first having received the proper warnings and hazards of use.

CORRECTIVE ACTION DEMONSTRATED: Following a conversation between the FEMA Evaluator and the Massachusetts Emergency Management Agency Controller, the properly dated and accurate KI Briefing Package was located and a satisfactory re-demonstration of the briefing was provided.

- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.6 Camp Clark

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.

- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.7 Alden Elementary School

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.8 Camp Bournedale

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.9 Camp Cachelot at Myles Standish State Forest

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.10 Camp Clear

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.11 Camp Massasoit

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 3.b.1, 3.c.2.

- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.12 Camp Squanto

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.13 Community Care (TAP)

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.14 Community Connections

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None

- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.15 Crayon College

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.16 Duxbury High School

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.17 Duxbury Middle School

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.18 Elements Montessori School

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.19 Garden of Knowledge

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.20 Habilitation Assitance

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.21 High Point Treatment Center

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.22 Hop Skip and Jump Preschool

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.23 Leaping Frogs Preschool

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.24 Learning Safari Daycare

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.25 Room 2 Grow

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.26 Small Scholars Preschool

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.27 Silver Lake Regional High School

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.28 Silver Lake Regional Middle School

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.29 Miss Joanne's Bright Beginnings

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.30 Stafford Hill Assisted Living

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.2.31 Tiny Town's Children Center

Criterion 1.a.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.b.1:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

Criterion 3.c.2:

Criterion was successfully demonstrated via Out of Sequence Interview Process with FEMA Evaluator.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 3.b.1, 3.c.2.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.3 Support Jurisdictions

3.3.3.1 Braintree Local EOC

Criterion 1.a.1:

On March 21, 2013, the Braintree Emergency Management Agency (BEMA) used effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner during the Pilgrim Nuclear Power Station (PNPS) exercise.

The Emergency Management Director (EMD) received the initial notification call from PNPS at 0840 that as of 0825 PNPS had declared an Emergency Classification Level (ECL) status of Alert with no release and no protective actions required. Upon receipt of that notification the EMD directed the administrative office staff member to begin calling in the Emergency Operations Center (EOC) staff. The EMD also declared a local emergency as of 0830. The EOC administrative staff member completed the EOC staff call down tree at 0920. The EMD declared the EOC activated at 0840 and declared operational at 0915. He then notified MEMA Region II that the EOC was operational.

At 0945 the EMD requested a staff briefing as to where they were relative to their procedural checklists; he then briefed the staff on the status of the PNPS. At 0947 the EOC received another notification from PNPS declaring a change in ECL's by declaring a Site Area Emergency (SAE). At 1008 the EOC received a message that the Governor declared a State of Emergency as a result of the PNPS nuclear incident. The Massachusetts Emergency Management Agency (MEMA) Region II submitted a message declaring that the sirens would be sounded at 1012 and the Emergency Alert System (EAS) message would be broadcast at 1015. The message consisted of closing all beaches, parks, closing waterways and animals be sheltered

placed on covered water and stored feed, as well as school districts in the EPZ to conduct a precautionary transfer of students to host schools or reception centers. At 1020 the EMD declared the Braintree Reception Center operational and he reported same to the MEMA Region II.

At 1136 the EOC received a notification that the ECL changed again to a General Emergency (GE) as of 1116, emergency workers and the general public would ingest KI, and that the following subareas were to be evacuated: 1,2,4,5,12, and the following subareas were to shelter: 3,6,7,10,11. At 1315 the EOC received word that the exercise terminated as of 1315.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

On March 21, 2013, key personnel at the Braintree Emergency Management Agency successfully provided direction and control during the Pilgrim Nuclear Power Station (PNPS) plume exercise.

The Emergency Management responsibility falls upon the community's Chief Executive Office, the Mayor. In accordance with the plans, the Mayor relegated Emergency responsibility to the Emergency Management Director (EMD).

The EMD clearly demonstrated his knowledge and expertise of emergency response and managing the required response to the PNPS exercise. From the moment he received the initial call, through the last call announcing exercise termination, he showed that he was in charge and able to make the appropriate decision. He provided frequent update briefings on PNPS status. By requiring staff briefings, he was able to evaluate the EOC response to the required mission of establishing and operating a monitoring and decontamination reception center to support the communities that might have to evacuate their home communities.

Each staff member was provided with copies of their particular part of the response plan. They followed their procedures at each level of the exercise. Each staff member executed their own activity event log and communicated with each other should their task at hand warrant it.

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

Criterion 1.d.1:

On March 21, 2013 the Braintree Emergency Management Agency had at least two communication systems available and operational during the Pilgrim Nuclear Power Station (PNPS) plume exercise as a supporting Host Community. Communication links were established and maintained with appropriate locations, and communications capabilities were managed in support of emergency operations.

Besides the telephone system used within the Emergency Operations Center (EOC) to communicate among themselves and their counterparts at Massachusetts Emergency Management Agency (MEMA) Region II, they used a variety of radio resources that were located in the communications section of the EOC. The primary method of communicating from MEMA Region II to the Braintree EOC was the commercial telephone. The backup method was a variety of radio systems available to the EOC located in the communications section of the EOC. BECONS was a MEMA radio system used between MEMA EOC and MEMA Region II EOC, and was a backup system between MEMA Region II and the Braintree EOC.

Also assisting with the EOC communications was a representative from the Radio Amateur Civil Emergency Service (RACES) to provide additional backup radio service.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

The Braintree Emergency Management Agency had sufficient equipment, maps, displays, and other supplies during the Pilgrim Nuclear Power Station (PNPS) plume exercise on March 21, 2013.

The Emergency Management Agency participated in the exercise as a host community. The Braintree Emergency Operations Center (EOC) was located on the lower floor of the office. The Emergency Management Agency office and communication section was located on the ground floor. Within the EOC the following were posted on the walls: a significant events board, emergency status board, map of the emergency planning zone (EPZ) depicting the location of the plant with a wind direction arrow as well as EPZ subsectors (the communities in the EPZ), an

EOC staff sign in board, and a flat screen television. Behind the Emergency Management Director (EMD) on the wall were two white boards as well as a green chalkboard. There were sufficient numbers of tables and chairs for the staff to on as well as staff telephones. There was an Emergency Classification (ECL) chart to follow and to define the meanings of the ECL codes.

There were no survey meters, direct reading or personal dosimeters in the EOC, as it was outside of the EPZ.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.1:

The Braintree Command Center (BCC) was located in the basement of the Town Hall at 1 JFK Memorial Drive, Braintree, MA. The Town of Braintree was a host jurisdiction for evacuees coming from risk jurisdictions in the Emergency Planning Zone (EPZ) of the Pilgrim Nuclear Power Station (PNPS).

By interview with the representative from the American Red Cross (ARC), it was determined that the Braintree High School Reception Center (RC) and each of the shelters were compliant with the Americans with Disabilities Act (ADA), allowing for full access of mobility impaired people. Interpreters are on call if the need arose for sign language or non-English speaking people, and the Red Cross telephone based translation line was also available for any language needs that could not be met locally or immediately.

Evacuees would have the opportunity to identify any unmet needs during registration at the RC. At that time, an ARC worker would create a referral to an appropriate provider on-site, or coordinate with the ARC representative at the Braintree Emergency Operations Center (EOC) to provide the needed services.

Basic support for people with medical needs would be provided at the RC and the shelters by a Red Cross Health Services Representative, each a registered Emergency Medical Technician. Any evacuee presenting more significant medical needs would be referred to a hospital, through 911 if they presented as an emergency. Non-emergency transportation to the hospital would be coordinated through the EOC by the ARC representative and the Transportation Manager at the EOC.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.d.1:

Through interview, it was established that the Law Enforcement (LE) Representative at the Braintree Emergency Operations Center (EOC) was capable of establishing traffic and access control (TAC) and providing accurate instructions to TAC personnel during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The LE Representative described evacuation traffic traveling north on Route 3 into Braintree.

TAC points were pre-identified as marked on a map, included in the Braintree plan. TAC Personnel were in their stand by locations at the pre-identified locations at 0915 (simulated). Activation of TAC would take minutes once triggered.

In cooperation with Massachusetts State Patrol, traffic would be limited to one Braintree exit, avoiding the center of town to minimize congestion and delay. State Patrol officers would manage traffic on the Highway, and local LE would manage traffic in town. This would be accomplished by 3-4 police officers and their patrol vehicles, out of 7 on a typical shift. Additional resources were available by tasking detectives in unmarked cars, and through Mutual Aid, which would have been placed on standby at the Alert Emergency Classification Level (ECL).

If any people were to evacuate by rail, the local LE could coordinate with transit police to facilitate movement, and further transport to the Reception Center would be coordinated with the transportation officer at the Braintree EOC.

TAC personnel demonstrated through interview knowledge of their function, to facilitate movement of evacuees to the reception and decontamination center at the Braintree High School. Should TAC personnel come in contact with a vehicle or a person that had come from the EPZ, they would contact the LE Representative in the EOC who would coordinate with the fire department HAZMAT team for monitoring and possible decontamination.

All activities described in the demonstration criterion were carried out in accordance with the

plans, procedures, and extent-of-play agreement.

Criterion 3.d.2:

By interview, it was established that the Law Enforcement (LE) Representative at Braintree Emergency Operations Center (EOC) was capable of identifying and resolving impediments to traffic and access control during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

When asked via interview, the LE representative explained how a traffic accident on the Exit 19 off ramp from Route 3 would impact evacuation and how it would be managed. Braintree Police Department computers would have access to real-time traffic camera feed. The incident could be reported from an officer on scene, by observation on the video feed, or through 911. Traffic south of the previous Braintree exit, number 17, would be directed to exit at that location and be routed through downtown Braintree to the Braintree High School. Traffic approaching the exit 19 would be directed to pass the blocked exit and routed north of the city then south on Route 37 to the Braintree High School.

This rerouting could be accomplished within 10-15 minutes, resulting in no blockage of the route and no vehicles stuck on the highway other than those involved in the traffic accident.

The impediment would be managed as normal for this Police Department, which deals with such accidents on a near daily basis during rush hour commuting. Additional resources for TAC could be called in from the pool of detectives and unmarked cars as well as from mutual aid from nearby local Police Departments and the State Patrol unit North of Braintree.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 5.b.1:

The Braintree Emergency Operations Center (EOC) successfully provided accurate emergency information and instructions to the public and news media in a timely manner during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013. The Public Information Officer at the Braintree EOC issued four press releases. As Braintree was a host locality, no evacuation information or instructions were provided in press releases by the Braintree EOC. Information was limited to plant status and local response, including the operation of a reception

center at the local high school for people evacuating from the Emergency Planning Zone (EPZ). The information provided was accurate and timely and consistent with the Protective Action Decisions (PADs) issued.

A pre-scripted press release was issued at 0830 upon notification of the Alert Emergency Classification Level (ECL) at PNPS. This press release notified Braintree residents that an Alert ECL had been declared at PNPS, that the Braintree EOC had been activated and that public safety officials and emergency workers were assessing local conditions and preparing for any response actions which may be needed, including the potential use of Braintree High School (BHS) as an evacuation reception center. It announced that the Mayor had declared a local state of emergency, called for off duty personnel to be on stand by for duty, but assured residents that no action on their part was called for at this time.

A second pre-scripted press release was issued at 0959 following the declaration of the Site Area Emergency ECL. It notified residents that PNPS had declared a Site Area Emergency, that the Reception Center at BHS had been activated and was standing by to receive evacuees, and that there remained no need for Braintree residents to take any action at this time.

A newly written press release was issued at 1057, providing details of the incident to Braintree residents. It specified that there had been no release of radioactive material; that a precautionary school transfer was underway with students arriving at BHS with police assistance there at BHS.

A final pre-scripted press release was issued at 1139 after the declaration of the General Emergency ECL. It notified Braintree residents of the escalation of the situation at PNPS and the declaration of a General Emergency ECL. It reiterated the use of BHS as a reception center and confirmed that no actions were required or recommended for Braintree residents.

The Public Information Officer (PIO) Rumor Control received four telephone inquiries from callers. Three of these were residents asking about different safety issues, and were referred to the Mass 2-1-1 system. One call was a reporter asking for an update on the plant, which was referred to Media Center at the Massachusetts Emergency Management Agency (MEMA). The rumor control forms were filled out appropriately. No issues were forwarded to the Joint Information Center as no patterns had appeared.

All activities described in the demonstration criterion were carried out in accordance with the

plan, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.c.1, 3.d.1, 3.d.2, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.3.2 Bridgewater Local EOC

Due to recent damage to the Bridgewater EOC, the Bridgewater Emergency Management staff were unable to participate during the exercise. In turn, this location was evaluated at the MEMA Region II EOC in accordance with the state compensatory plan.

In summary, the status of DHS/FEMA criteria for this location is as follows:

3.3.3.3 Taunton Local EOC

Criterion 1.a.1:

The City of Taunton and the Taunton Emergency Operations Center (EOC) used effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013.

The initial notification for the City of Taunton, MA was received at the city's 24 Hour Warning Point in the dispatch center of Taunton Police Department (TPD) Headquarters. At 0832 a police officer received a call from PNPS on the DNN dedicated ring-down phone (from PNPS) and one minute later received hard copy on the DNN fax machine located beside the DNN phone in the Taunton Police Department (TPD) dispatch center. The call and fax announced an Alert at PNPS.

The officer then contacted the Taunton EMD via TPD radio and notified the EMD of the Alert Emergency Classification Level (ECL) at 0834. The TPD officer's procedures instructed the officer to stand by to continue to receive notifications via DNN until the Taunton EOC notified

TPD that they were operational and would receive further ECL changes.

Key positions in the Taunton EOC were filled according to a staffing roster utilized by the Taunton EMD, which included staffing for 24 hour operations if required. The Taunton EOC was declared operational by the Taunton EMD at 0910 and the Deputy EMD called the TPD dispatch center at that time and informed them the EOC would answer all further DNN calls and faxes.

The Site Area Emergency ECL and General Emergency ECL were received at the Taunton EOC by the EOC Communications Officer via the DNN Phone and DNN Fax in the EOC at 0955 and 1131 respectively.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.b.1:

Facilities at the Taunton, Massachusetts Emergency Operations Center were sufficient to support the emergency response during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The New Taunton Emergency Management Agency (TEMA) Emergency Operations Center (EOC) at 90 Ingell Street was a new facility recently completed by the TEMA Director and staff.

The new EOC had adequate space, including an office for the TEMA Director that could be utilized as an executive conference area, an EOC room, security reception center, and Communications Center.

Furnishings were new and were more than adequate to support EOC operations. Lighting was bright and adequate. A new restroom and sink were recently completed and the restroom was operational and ADA compliant. Ventilation and HVAC was adequate.

A back-up generator was recently installed with capacity to power the entire EOC and all its systems for an extended period.

There was a security/reception area that all staff and visitors were required to pass before

entering the EOC area.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.c.1:

Key personnel with leadership roles for the Taunton, Massachusetts Emergency Operations Center (EOC) provided direction and control to that part of the overall response effort for which they were responsible during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013.

The Taunton Emergency Management Director (EMD) was in charge of Direction and Control at the Taunton EOC.

The Taunton EMD conducted several thorough briefings of the entire EOC staff at regularly scheduled intervals and made quick announcements as critical events occurred. The EMD utilized a public address system in the EOC so all staff members could clearly hear the briefings. Each functional area and department at the EOC gave a report on information and activities related to their responsibilities during these briefings.

The EMD and EOC staff coordinated with the licensee, the State EOC, the Massachusetts Emergency Management Agency Region II EOC, the Taunton Reception Center, other Pilgrim Emergency Planning Zone (EPZ) communities and Taunton Schools that were utilized as host schools and congregate shelters for evacuees. Coordination took place via cellular phone, land line phone, email, Taunton public safety 2-way radios, WebEOC, and R.A.C.E.S. radio.

The EMD, in coordination with EOC staff, made timely decisions and looked ahead to possible future actions as they received information that plant conditions were deteriorating.

Resources were requested through various city departments as required. Request were also made for extra American Red Cross staff and R.A.C.E.S. radio operators to staff city shelters in anticipation of a General Emergency that would send evacuees to city shelters. The EMD determined if evacuations occurred, the EOC and city shelter operations would extend into at least the next operational period.

The EMD approved city press releases.

Binders with functionally specific procedures and support annexes were placed at each functional activity work space. Message logs, status logs and boards, and webEOC were maintained and updated in a timely manner. Plans and procedures were followed.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.d.1:

At least two communication systems were available at the Taunton Emergency Operations Center (EOC), at least one operated properly, and communication links were established and maintained with appropriate locations during the Pilgrim Nuclear Power Station Plume Exercise on March 21, 2013. Communications capabilities were managed in support of emergency operations.

Commercial telephone lines were available at each functional area's workstation. In addition to commercial land lines, the following communications methods/systems were utilized:

WebEOC, email, cellular telephones, Taunton Police radio, Taunton Fire radio, Taunton EMA Radio, MEMA VHF radio, BECONS radio, R.A.C.E.S. 2-meter radio, DNN call-down phone (from PNPS) and DNN dedicated fax machine.

Communications checks were conducted on all systems and all systems were extensively utilized for emergency management operations during the exercise.

No equipment failures or other communications problems occurred during the exercise.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 1.e.1:

Equipment, maps, displays, and other supplies were sufficient to support emergency operations at the Taunton Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013.

The status of PNPS, Emergency Classification Levels and other significant information were posted on an electronic display that could be easily seen from all parts of the EOC room. Smaller display screens were utilized in the Security and Communications work stations.

Maps of the Emergency Planning Zone (EPZ), lists of communications frequencies and telephone numbers as well as other important information were posted in strategic areas inside the EOC.

Since the entire City of Taunton and the Taunton EOC was several miles outside the 10 mile EPZ, no personal protective equipment or dosimetry were needed or utilized. Dosimetry for Emergency Workers at the Taunton Reception Center were evaluated Out Of Sequence.

Potassium Iodide for members of the public that have evacuated from the EPZ was maintained and would be distributed by the Commonwealth of Massachusetts Department of Public Health.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

Criterion 3.c.1:

By interview and discussion with the representative from the American Red Cross, it was revealed that persons with disabilities that evacuated and arrived at the Taunton Reception Center (TRC) would be assimilated into General Population Shelters. Accessibility needs of persons with disabilities would be met by using Taunton School District (TSD) school buildings, all of which meet the requirements of the Americans with Disabilities Act (ADA). The TSD representative confirmed that all schools were built or renovated since 1992, therefore were compliant with the ADA requirements. The TRC Transportation Officer (TO) was contacted regarding transportation special needs transportation requirements. The TRC TO verified with the Taunton Emergency Management Director that the caller should be and was referred to Massachusetts Emergency Management Agency, Region II TO. The Taunton Emergency Operations Center was not equipped with a Telecommunications Device for the Deaf (TDD) or Teletype (TTY) for use by the hearing impaired. The city of Taunton is a host community for the Sub-Areas at risk. TTY and TDD number are published for the risk communities and easily referenced by persons with hearing disabilities in an emergency and for planning purposes by using information found inside the front cover of the annual calendar handed out by the various Emergency Management Agencies in the risk communities. All Activities described in the

demonstration criterion were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 3.d.1:

By interview and discussion with the Taunton Police Officers (TPO), it was determined that there were ten Traffic and Access Control Points (TACP) that required staffing within their jurisdiction. One TACP was on a state highway and staffing would be the responsibility of the Massachusetts State Police, to meet an initial staffing requirement a TPO may be utilized due to the urgent and compelling nature of an incident. The TPOs in the Taunton Emergency Operations Center referred to the Traffic Management Plans in the notebook binder provided for their position and verified the identity, priority, staffing requirement, number of cones, barricades and signage required. The TPOs were able to access and meet real time staffing by utilizing a laptop computer with an air card that provided the officer electronic access to the Taunton Police Department (TPD) daily roster and provided 100% accountability of TPD staff. The TPO could communicate with the TPD Commanding Officer on Duty and provide updated instructions over the internet, by radio or telephone. The TPO had authority to hire overtime and meet other staffing requirements to maintain adequate staff at the TACPs. At 0955, the TPOs and the Taunton Department of Public Works (TDPW) coordinated equipment needs for the TACPs. The TDPW representative contacted the TDPW shop and requested barricades to be made ready and started to coordinate snow removal should it be required later in the days. At 1132, the TPO simulated that all TACPs were staffed and the TPO and TDPW representative coordinated efforts to ensure all equipment needs were met. The TDPW representative reviewed backup resources and methods to contact mutual aid DPWs for additional electronic signage and barricades should they be needed. All Activities described in the demonstration criterion were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 3.d.2:

By interview and discussion with the Taunton Police Officers, it was revealed that there were sufficient resources to removed impediments to evacuation by using tow trucks. Impediments to evacuation due to a Hazardous Materials Incidents would require contacting the Taunton Fire Department (TFD), coordinating with them and utilizing TFD HAZMAT teams. At 1132, the TPOs simulated pre-staging tow trucks and coordinated with the Taunton Department of Public Works representative to ensure that heavy equipment and snow removal equipment was readied. The additional equipment was to be made available through mutual aid resources should it be required to keep the Traffic and Access Control Points open and evacuee traffic flowing in a

safe, orderly and expeditious manner. All activities described in the demonstration criterion were carried out in accordance with the plans, procedures and extent-of-play agreement.

Criterion 5.b.1:

The provision of emergency information and instructions for the public and media was adequately demonstrated at the Taunton Emergency Operations Center (EOC) during the Pilgrim Nuclear Power Station (PNPS) Plume Exercise on March 21, 2013.

The Taunton Public Information Officer (PIO) coordinated three Press Releases (PR) with the Taunton Emergency Management Director. PR #1 was at 0926 and in response to the Emergency Classification Level (ECL) of Alert. It advised the public that the Mayor of Taunton had declared an emergency and put first responders on standby to respond if required. PR #2 was at 1103 and in response to the ECL of Site Area Emergency. It advised the public that the Reception Center (RC) at Taunton High School (THS) had opened and was operational and that the RC was for residents from affected areas around PNPS. Additional official information could be obtained by tuning into one of the listed Emergency Alert System (EAS) stations. PR #3 was at 1300 and in response to the ECL of General Emergency. It advised the public that the RC at THS was open and ready to receive residents and visitors from the affected areas around PNPS and there was no need of further action by residents of Taunton.

No phone call inquires were received at the EOC by the PIO or Rumor Control. Interview and discussion with the PIO revealed that there was adequate information available to answer questions or refer callers to listen to the EAS stations or the Massachusetts 2-1-1 number for other official information.

All activities described in the demonstration criterion were carried out in accordance with the plans, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 1.a.1, 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.c.1, 3.d.1, 3.d.2, 5.b.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None

- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.3.4 American Medical Response Ambulance Company

The American Medical Response (AMR) Ambulance crew demonstrated the capability to transport a contaminated injured individual to Good Samaritan Hospital. Communications between the ambulance, the dispatcher, and the hospital was satisfactorily demonstrated. Contamination control measures were adequately demonstrated prior to, and during transport of the patient.

The AMR emergency medical technician (EMT) donned gloves, gown and boot covers prior to treating the patient being transported from Bridgewater Reception Center (simulated location). The patient presented with simulated laceration to the left leg that was bleeding, left ankle sprain/break and a laceration to the chin. The patient was put into a cervical collar and backboard. The reception center staff (simulated) had positive contamination of the patient, the AMR EMT treated the patient and wrapped patient after treatment for transportation to the Good Samaritan Hospital.

Following turnover of the patient to Good Samaritan Hospital, the ambulance staff demonstrated knowledge of where the ambulance and crew would be monitored and decontaminated.

After the patient was transferred to the hospital staff, the radiation officer using the 14-C Ludlem with pancake probe surveyed the ambulance and the ambulance staff. The ambulance was found to have contamination of the driver's side door handle at 200cpm and steering wheel at 400cpm. The radiation officer explained the procedure how they would decontaminate the ambulance, the decontamination was simulated.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

Criterion 6.d.1:

The American Medical Response (AMR) Ambulance crew demonstrated the capability to transport a contaminated injured individual to Good Samaritan Hospital. Communications between the ambulance, the dispatcher, and the hospital was satisfactorily demonstrated.

Contamination control measures were adequately demonstrated prior to, and during transport of the patient.

The AMR emergency medical technician (EMT) donned gloves, gown and boot covers prior to treating the patient being transported from Bridgewater Reception Center (simulated location). The patient presented with simulated laceration to the left leg that was bleeding, left ankle sprain/break and a laceration to the chin. The patient was put into a cervical collar and backboard. The reception center staff (simulated) had positive contamination of the patient, the AMR EMT treated the patient and wrapped patient after treatment for transportation to the Good Samaritan Hospital.

Following turnover of the patient to Good Samaritan Hospital, the ambulance staff demonstrated knowledge of where the ambulance and crew would be monitored and decontaminated. After the patient was transferred to the hospital staff, the radiation officer using the 14-C Ludlum with pancake probe surveyed the ambulance and the ambulance staff. The ambulance was found to have contamination of the driver's side door handle at 200cpm and steering wheel at 400cpm. The radiation officer explained the procedure how they would decontaminate the ambulance, the decontamination was simulated.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent-of-play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 6.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

3.3.3.5 Caritas Good Samaritan Medical Center

Criterion 3.a.1:

The Good Samaritan Medical Center staff demonstrated the capability to issue appropriate dosimetry, KI, and procedures and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically and at the end of each mission read their dosimeters and recorded readings on exposure record forms. There was also appropriate record keeping of KI administration for emergency workers.

On October 24, 2012, Good Samaritan Medical Center in Brockton, MA in conjunction with American Medical Response (AMR) Ambulance personnel conducted a Medical Services -MS-1 Drill.

At around 0800, the Emergency Department received notification from MEMA Region II that an emergency had been declared at Pilgrim Station. During the call they were alerted that a potentially contaminated and injured evacuee was enroute to the Medical Center.

While awaiting patient arrival the Radiation Health Professional ensured that all staff who were in the Radiological Emergency Area (REA) as well as those outside the buffer zone were equipped with Dosimetry (high and low range) and KI (exp. 08/2014) was also available. Staff who were performing monitoring activities also had survey meters (CDV -700).

Once the patient arrived, the ED Physician and staff ensured that the patient was stable and all medically necessary actions were complete prior to decontamination. Next they began the monitoring and decontamination process, taking extreme caution not to cross contaminate. Staff were required to monitor their dosimetry and report levels as well as change gloves and dispose of contaminated equipment as necessary.

All activities were demonstrated in accordance with plans and procedures and extent of play agreement.

Criterion 6.d.1:

The Good Samaritan Medical Center had appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and medical services to contaminated injured individuals.

On October 24, 2012, Good Samaritan Medical Center in Brockton, MA in conjunction with American Medical Response (AMR) Ambulance personnel conducted a Medical Services -MS-1 Drill.

At around 0800, the Emergency Department received notification from MEMA Region II that an emergency had been declared at Pilgrim Station. Next, they received a call from AMR stating that an potentially contaminated and injured evacuee was enroute to the Medical Center with an ETA of 15 minutes.

While awaiting patient arrival the Emergency Department staff and ensured that the Radiological Emergency Area (REA) was setup and equipment and supplies were available. This was all done according to the plan and the new Radiation Emergency Area (REA) visual set-up reference sheet. Radiation monitoring equipment was issued, to include Direct Reading Dosimeters and CDV-700 survey meters. All equipment was calibrated and operationally checked prior to use. Background readings were also established in posted in the area.

Contamination control measures were in place such as floor coverings, buffer zones (separate clean and dirty areas), contained decontamination area, donned staff (Tyvek suits, gloves, masks, and booties). There was several postings of procedures for Radiation Accidents, and instructions on how to remove protective clothing. Trash Barrels, caution signs, roped areas, and step off pads were also available.

Once the patient arrived, the ED Physician and staff ensured that there was a seamless transfer of patient. The top priority was patient stabilization and treating injuries. This included examining the wounds and taking lab samples. Next the Radiation Health Officer and assistant began the monitoring and decontamination process, taking extreme caution not to cross contaminate. Once there were no reading above 300 counts per minute, the patient was determined to be clean. It was also discussed via interview that if there were three unsuccessful then public health officials would be notified.

After patient decontamination, the REA staff monitored one another and began to remove protective gear, disposing of items prior to exiting the area.

All activities were demonstrated in accordance with plans and procedures and extent of play agreement.

In summary, the status of DHS/FEMA criteria for this location is as follows:

- a. MET: 3.a.1, 6.d.1.
- b. AREAS REQUIRING CORRECTIVE ACTION: None
- c. DEFICIENCY: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

SECTION 4: CONCLUSION

APPENDIX A: IMPROVEMENT PLAN

Issue Number: 48-13-1c1-A-01		Criterion: 1c1
<p>ISSUE: At 10:00 the Plymouth Emergency Management Director (EMD) ordered the sounding of Sirens 38 & 39, two sirens located in remote portions of the town that would take additional time to evacuate should an evacuation be ordered at a later date. This precautionary evacuation of this remote area is accomplished by the Town-level activation of two sirens and an audio message being broadcasted ordering the evacuation of the area. While this was in progress, the Commonwealth of Massachusetts (State) at 10:01 issued an Emergency Action Directive Form announcing the state activation of EPZ-wide sirens. The messaging that there was a EPZ-wide activation of sirens by the State at 10:12 was not known by EOC leadership, staff or other first responders and subsequently not communicated or acted on.</p>		
<p>RECOMMENDATION: The Town of Plymouth should consider changing the nomenclature by which they describe the use of the locally-initiated audio functions of Siren Stations 38 & 39 located in remote, not easily accessible, areas of the town in order to preclude future confusion with a locally-initiated sounding of sirens and a state activated EPZ wide activation.</p>		
<p>CORRECTIVE ACTION DESCRIPTION:</p>		
CAPABILITY:	PRIMARY RESPONSIBLE AGENCY:	
CAPABILITY ELEMENT:	START DATE:	
AGENCY POC:	ESTIMATED COMPLETION DATE:	

APPENDIX B: EXERCISE TIMELINE

Table 1 - Exercise Timeline
DATE: 2013-03-21, SITE: Pilgrim Nuclear Power Station, MA

Emergency Classification Level or Event	Time Utility Declared	MA SEOC	MA RII EOC	MA PNPS EOF	MA PNPS JIC	Carver EOC	Duxbury EOC
Unusual Event							
Alert	0825	0832	0835	0837	0847	0825	0832
Site Area Emergency	0944	0953	0952	0945	1000	0957	0952
General Emergency	1116	1125	1125	1116	1131	1132	1132
Simulated Rad. Release Started	1122	1125	1125	1122	1131	1132	1132
Simulated Rad. Release Terminated	-	-	-	-	-	-	NA
Facility Declared Operational		0900	0845	0905	0955	0850	0910
Declaration of Emergency: State		1000	1000	1033	1010	1035	NA
Declaration of Emergency: Local		-	-	-	-	0901	0952
Exercise Terminated		1315	1315	1315	1315	1315	1315
Early Precautionary Actions: Close Parks		0956	0956	0956	1000	1008	0956
Early Precautionary Actions: School Transfer		0956	0956	0956	1000	1008	0956
Early Precautionary Actions: Shelter Livestock/Feed		0956	0956	0956	1000	1008	0956
Precautionary Siren Activation		1012	1012	-	1012	1012	1029
Precautionary EAS Message		1015	1015	-	1015	1015	-
1st Protective Action Decision: SIP 3, 6-11; Evacuation 1, 2, 4, 5, 12		1131	1128	1130	1133	1143	1144
1st Siren Activation		1141	1141	-	1141	1141	1141
1st EAS Message		1144	1144	-	1144	1144	-
KI Administration Decision: Public (1, 2, 4, 5, 12), Institutionalized Individuals		1131	1128	1125	1133	1143	1159
KI Administration Decision: Emergency Workers, Field Monitoring Teams		1131	1128	1130	1133	1143	1144

Table 1 - Exercise Timeline
DATE: 2013-03-21, SITE: Pilgrim Nuclear Power Station, MA

Emergency Classification Level or Event	Time Utility Declared	Kingston MA EOC	Marshfield EOC	Plymouth EOC	Braintree EOC	Taunton EOC
Unusual Event						
Alert	0825	0832	0831	0832	0840	0834
Site Area Emergency	0944	0955	0947	0952	0947	0955
General Emergency	1116	1131	1128	1127	1136	1131
Simulated Rad. Release Started	1122	1215	1128	1127	1136	1131
Simulated Rad. Release Terminated	-	-	-	-	-	-
Facility Declared Operational		0852	0900	0920	0915	0910
Declaration of Emergency: State		1000	1000	1000	1008	1000
Declaration of Emergency: Local		0958	0930	0958	0830	0926
Exercise Terminated		1315	1315	1315	1315	1315
Early Precautionary Actions: Close Parks		0933	1012	0941	0956	1007
Early Precautionary Actions: School Transfer		0956	1012	1000	0956	1007
Early Precautionary Actions: Shelter Livestock/Feed		1009	1012	-	0956	1007
Precautionary Siren Activation		1012	1012	0958	1012	1007
Precautionary EAS Message		1015	1015	1144	1015	1007
1st Protective Action Decision: SIP 3, 6-11; Evacuation 1, 2, 4, 5, 12		1144	1142	1142	1136	1142
1st Siren Activation		1141	1141	-	1141	1142
1st EAS Message		1144	1144	-	1144	-
KI Administration Decision: Public (1, 2, 4, 5, 12), Institutionalized Individuals		1144	1217	1142	1136	1142
KI Administration Decision: Emergency Workers, Field Monitoring Teams		1144	1144	1142	1136	1142

APPENDIX C: EXERCISE EVALUATORS AND TEAM LEADERS

DATE: 2013-03-21, SITE: Pilgrim Nuclear Power Station, MA

LOCATION	EVALUATOR	AGENCY
Massachusetts State Emergency Operations Center	Brian Kennedy *Barbara Thomas Paul Ward	FEMA FEMA RI FEMA HQ
MA 211 Call Center	*Ingrid Bruns	FEMA RI
MA Region II EOC	*Helen LaForge Bruce Swiren	FEMA RI ICFI
MA (PNPS) Emergency Operations Facility	*Michael Howe Brad McRee	FEMA HQ ICFI
MA (PNPS) Field Monitoring Team-1	Korkean Dulgerian	FEMA RII
MA (PNPS) Field Monitoring Team-2	Martin Vyenelo	FEMA RIII
MA (PNPS) Joint Information Center	*Samuel Nelson	ICFI
Carver Local EOC	Mark Dalton *Patricia Mason	ICFI FEMA RII
Duxbury Local EOC	*Bridget Ahlgrim Bill Webb	FEMA HQ FEMA RX
Kingston MA Local EOC	*Linda Gee Joseph Suders	FEMA RVI FEMA RIII
Marshfield Local EOC	*Lauren DeMarco David Petta	FEMA - RI ICFI
Plymouth Local EOC	*Ryan Jones Timothy Pflieger	FEMA - RI FEMA RVI
Camp Clark	*Taneeka Hollins	FEMA RI
Alden Elementary School	*Taneeka Hollins	FEMA RI
Camp Bournedale	*Taneeka Hollins	FEMA RI
Camp Cachelot at Myles Standish State Forest	*Taneeka Hollins	FEMA RI
Camp Clear	*Taneeka Hollins	FEMA RI
Camp Massasoit	*Taneeka Hollins	FEMA RI
Camp Squanto	*Taneeka Hollins	FEMA RI
Community Care (TAP)	*Taneeka Hollins	FEMA RI
Community Connections	*Taneeka Hollins	FEMA RI
Crayon College	*Taneeka Hollins	FEMA RI
Duxbury High School	*Taneeka Hollins	FEMA RI
Duxbury Middle School	*Taneeka Hollins	FEMA RI
Elements Montessori School	*Taneeka Hollins	FEMA RI
Garden of Knowledge	*Taneeka Hollins	FEMA RI
Habilitation Assitance	*Taneeka Hollins	FEMA RI
High Point Treatment Center	*Taneeka Hollins	FEMA RI
Hop Skip and Jump Preschool	*Taneeka Hollins	FEMA RI
Leaping Frogs Preschool	*Taneeka Hollins	FEMA RI
Learning Safari Daycare	*Taneeka Hollins	FEMA RI
Room 2 Grow	*Taneeka Hollins	FEMA RI
Small Scholars Preschool	*Taneeka Hollins	FEMA RI
Silver Lake Regional High School	*Taneeka Hollins	FEMA RI
Silver Lake Regional Middle School	*Taneeka Hollins	FEMA RI
Miss Joanne's Bright Beginnings	*Taneeka Hollins	FEMA RI
Stafford Hill Assisted Living	*Taneeka Hollins	FEMA RI

Unclassified

Radiological Emergency Preparedness Program (REP)

After Action Report/Improvement Plan

Pilgrim Nuclear Power Station

Tiny Town's Children Center	*Taneeka Hollins	FEMA RI
Braintree Local EOC	Laurel Ryan Robert Swartz	FEMA RVII FEMA RI
Bridgewater Local EOC		
Taunton Local EOC	*Don Carlton Paul Ringheiser	FEMA RI ICFI
American Medical Response Ambulance Company	Brian Kennedy	FEMA
Caritas Good Samaritan Medical Center	*Taneeka Hollins	FEMA RI
* Team Leader		

APPENDIX D: EXERCISE PLAN

Pilgrim Nuclear Power Station March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise

NARRATIVE SUMMARY

Initial Conditions

At the start of the drill/exercise, the plant is at 100% power and has been running for an extended run of 350 days. All equipment is available with the exception of Salt Service Water (SSW) Pump 'B' which has been placed in pulled to lock (PTL) operational status. Painting is in progress in the SSW Pump Bays. At the request of the paint crew Pump "B" was shutdown to prevent seal leakage from splashing onto the floor. The painters are now applying an epoxy floor coating adjacent to the Salt Service Water Pump 'B' pedestal. SSW Pump 'B' is available if needed.

The appropriate Limiting Condition for Operation (LCO) is in place to address the pump in pull to lock status. Copies of the Material Safety Data Sheet (MSDS) for the paint products in use are available in the Control Room and at the job site.

It is a cloudy day with seasonal temperatures. The initial wind is from the Northwest at 12 mph. The temperature is 40 degrees. The weather forecast predicts the winds to be from the North at 10 to 15 mph. Skies are expected to remain partly cloudy throughout the day.

Sequence of Events

The Drill/Exercise is initiated when the Simulator Control Room receives a call from the Paint Crew Supervisor that a "fire ball" was seen near the vicinity of the SSW 'A' pump area. All workers from the SSW Bay have been evacuated. However, it appears to be a "smoky haze" emerging from the SSW 'A' pump area. The Operating crew should enter PNPS 5.5.1 (General Fire Procedure) and dispatch the Fire Brigade. Shortly afterward, SSW Pump 'A' will trip. The operating crew will attempt to start SSW Pump 'B', but it will not start. The crew will enter PNPS 2.4.43 (Loss of One Salt Service Water Loop) for guidance.

Reports from the Fire Brigade will indicate that the Fire is out and that damage to SSW 'A' Pump appears to have been extensive. Access to the SSW 'A' Pump area is being restricted pending cleanup.

Based on the current plant conditions, the operating crew should evaluate Emergency Action Level entry conditions and should determine that the Alert EAL entry condition has been met.

The crew is expected to declare an **Alert** based on **EAL HA2.1** (Fire or explosion resulting in visible damage to any Table H-1 area containing safety systems or components or Control Room indication of degraded performance of safety systems).

When the Alert is declared, the emergency response organization (ERO) is notified by activation of the EverBridge ERO Notification System. Offsite notifications of the Alert declaration will be made to the Commonwealth and local towns by using the Dedicated Notification Network (DNN) computerized system. When sufficient ERO staff arrives at the Technical Support Center (TSC), the Operations Support Center (OSC), the Emergency Operations Facility (EOF), and the Joint Information Center (JIC), and equipment is available to perform the emergency functions assigned to that facility, each facility will be made operational.

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Sequence of Events (continued)

At approximately 1 1/2 hour after the start of the drill/exercise, Safety Relief Valve (SRV) 'C' will fail open. The Control Room Operators will take action in accordance with PNPS 2.4.29 (Stuck Open Safety Relief Valve) to close the valve. The OSC will have to brief and dispatch non-licensed operators (NLO's) to take actions at the Alternate Shutdown Panels (ASP's) located on Reactor Building (RB) 23' elevation. If the SRV cannot be closed in 5 minutes, PNPS 2.4.29 (Stuck Open Safety Relief Valve) will require the insertion of a Manual Reactor Scram. In any event, the SRV will remain open and the crew will insert the Manual Reactor Scram.

The Reactor Scram will fail due to the hydraulic binding of the Control Rod Drive Mechanisms. Reactor power will stabilize at approximately 12% after immediate actions per PNPS 2.1.6 (Reactor SCRAM) have been taken. The Operating crew will declare an Anticipated Transient Without Scram (ATWS, or failure to SCRAM).

Note: The insertion of a Manual Scram using the pushbuttons at panel 905 acts upon the Reactor Protection System (RPS) Scram circuitry in the A3 and B3 logic- ie. the Manual Scram circuitry. Placing the Mode Selector Switch (MSS) in SHUTDOWN reduces the Power Range Neutron Monitoring System SCRAM set point to 12%. At this point- a second portion of the RPS SCRAM circuitry has failed; this time the Automatic portion of the circuitry- the A1, A2 and B1, B2 logics. *So while placing the MSS in SHUTDOWN is a manual action- the action impacts the AUTOMATIC portion of the RPS circuitry. This distinction is important - as the entry condition for the EAL requires a failure of the AUTOMATIC SCRAM circuitry as a pre-requisite to an ATWS declaration. (See EAL SS2.1 text below).*

The Crew will inform the EOF and enter EOP-1 (RPV Control), then EOP-2. (RPV Control, Failure to SCRAM). After the ATWS event, the EOF Emergency Director is expected to upgrade the event to a **SITE AREA EMERGENCY (SAE)** based on the following EAL entry condition:

EAL SS2.1

An automatic scram failed to shutdown the reactor (reactor power < 3%)
AND

Manual actions taken at the reactor control console do not shutdown the reactor as indicated by reactor power \geq 3% (Note 6)

Note 6: Manual actions taken at the reactor control console are the following:

- Reactor SCRAM pushbuttons
- Reactor Mode Switch in SHUTDOWN
- ATWS- ARI pushbuttons

Pilgrim Nuclear Power Station March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise

NARRATIVE SUMMARY

Sequence of Events (continued)

In accordance with procedure PNPS 5.3.23 (Alternate Rod Insertion), the crew will initiate Standby Liquid Control (SLC). The first SLC pump started will fail. Once recognized, the Operators will place the second SLC pump in service and it will operate properly. In addition to SLC initiation, Emergency Operating Procedure (EOP-02) will direct the crew to utilize procedure PNPS 5.3.23 for alternate rod insertion. Alternative, and parallel, success paths include individual Control Rod Drive (CRD) insertion, closing of the CRD 25 valve, and multiple scrams, subsequent to bypassing Reactor Protection System (RPS) and Alternate Rod Insertion (ARI) logics per PNPS 5.3.23. Upon taking and completing these actions, the crew will be able to manually insert control rods to shutdown the reactor.

Following the Reactor Scram:

- Fuel failure due to excessive local fuel heating associated with the ATWS will begin to elevate DW, Torus, Main Steam Line and Off Gas radiation levels.
- SRV 'C' will reseal upon Reactor Scram signal.
- A (relatively) small Drywell (DW) leak will develop raising DW pressure to > 2.2 psig

The rising DW pressure is an EAL entry condition for FA1.1 Fission Product Barriers at the ALERT Level (Loss of the RCS). The crew and ERO staff should be aware of this, however, with a SAE declared the ALERT does not require an escalation.

The crew and ERO staff will continue to monitor for escalation using the Fission Product Barrier Matrix.

The crew will take control of reactor pressure and reactor water level as directed in EOP-2. The control room will contact the OSC for dispatch of personnel to support actions of PNPS 5.3.23 (Alternate Rod Insertion) and other priorities.

At this point these will include:

- Closing CRD-25 in the RB on the CRD Mezzanine. PNPS 5.3.23
- Bypassing ARI PNPS 5.3.23
- Walking down the diesels following start on high DW pressure
- Investigating the failure of SLC pump 'A' (or 'B')

The Operators actions in PNPS 5.3.23 will result in the successful insertion of all control rods. With all rods inserted and verified, Operators will secure the in service SLC pump, exit EOP-2, enter EOP-1 and attempt to commence a cooldown.

When the Operators recognize the rising Main Steam Line (MSL) radiation levels they will close the Main Steam Isolation Valves (MSIV's). Upon MSIV closure, the Safety Relief Valves will be used for reactor pressure control.

Rising DW and Torus Radiation levels will be identified on the Containment High Radiation Monitors (CHRMS).

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Sequence of Events (continued)

With Drywell Containment High Radiation Monitors exceeding 800 R/hr, this is an EAL entry condition for FS1.1 Fission Product Barriers at the Site Area Emergency Level (Loss of the Fuel Clad and Loss of the RCS). The Primary Containment Barrier is still intact and therefore will not result in an escalation at this time.

At approximately 3 hours and ten minutes after the start of the drill/exercise, the Control Room (simulator) will receive indications of a Steam leak in the RCIC Quad.

- A fire alarm at Zone 3A
- Rising temperatures and radiation levels in the Reactor Building (Secondary Containment).
- Reports from any personnel in the Reactor Building (Secondary Containment).

Emergency Plant Operations Supervisor (EPOS) will request investigation of these indications and the OSC will brief and dispatch personnel.

Rising Temperatures and Radiation levels will require entry into EOP-4 (Secondary Containment Control).

EPOS will request the OSC to dispatch Radiation Protection (RP) technicians to perform radiation surveys required by EOP-4.

Operators will attempt to isolate RCIC. The RCIC steam supply isolations will not close.

EPOS will request the OSC to dispatch a team to attempt to close the outboard RCIC Steam Isolation Valve.

Temperatures in the Secondary Containment will exceed Maximum Safe values as a result of the Steam leak. Personnel dispatched into the Reactor Building (Secondary Containment) will report the presence of steam and high temperatures and radiation levels.

The presence of the un-isolable RCIC leak in to the Secondary Containment resulting in exceeding a maximum Safe Operating Value (EOP-4 Table L) meets the EAL entry condition for the Loss of the Primary Containment Barrier.

Upon confirmation of the status of the potential loss and loss of the Fuel Clad Barrier, RCS Barrier and Primary Containment Barrier, a **General Emergency** should be declared per **EAL FG1.1** (Loss of any two barriers and Loss or Potential Loss of third barrier - Table F-1). All three fission product barriers should be determined to be lost (Fuel Clad, RCS and Primary Containment).

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Sequence of Events (continued)

At the time of declaring the General Emergency, the ERO should formulate and issue Protective Action Recommendations (PAR) with the initial General Emergency declaration. The PAR with the postulated wind direction from the North (355 degrees) will include:

- Evacuating the 2 mile ring surrounding the plant and 5 miles downwind of the affected sub-areas in the Emergency Planning Zone (EPZ)

AND

- Sheltering all remaining sub-areas in the EPZ.

This should include evacuating sub-areas 1, 2, and 12; sheltering sub-areas 3, 4, 5, 6, 7, 8, 9, 10 and 11.

In addition, a reminder is provided in the PAR that the Commonwealth of Massachusetts and local emergency authorities should consider the administration of Potassium Iodide (KI) for the general public in accordance with each authority's emergency plan and procedures.

No subsequent PARs are expected with this drill/exercise scenario.

Radiation levels on the Main Stack will continue to rise as the secondary containment steam leak is removed through the Standby Gas Treatment System. The radiation levels from the steam leak will cause the Main Stack readings to exceed 10,000 cps for greater than 15 minutes. The CR Simulator crew will enter EOP-05 (Rad Release Control).

After the GE is declared, maintenance personnel are successful in repairing the outboard RCIC Steam isolation valve and the valve will close, terminating the source of the release. The RCIC steam leak has been isolated. The Main stack radiation monitors will start to trend downward.

Termination

After the General Emergency is declared, the drill/exercise will be terminated when sufficient time has elapsed to allow appropriate objectives to be demonstrated or evaluated.

Drill/Exercise termination will not be announced until objective demonstration has been confirmed with on-site and off-site jurisdiction as needed.

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
-00:30	0730	Controllers in position.	
-00:30	0730	Initial conditions Established.	Simulator operating crew is briefed on the initial conditions. Controllers must provide this information to players when they arrive at the facility, especially the lead facility players.
-00:05	0755	Drill/Exercise Announcement	Control Room (CR) announcer makes announcement over the plant Public Address (PA) system.
00:00	0800	Drill/Exercise Commences	Controllers and Simulator operating players are in position. Scenario begins.
00:05	0805	"Fire Ball" at the Salt Service Water (SSW) Pump 'A' observed by paint crew.	Crew will enter PNPS 5.5.1 (General Fire Procedure). Fire Brigade responds.
00:07	0807	SSW 'A' Pump trip SSW 'B' Pump will not start.	The crew will enter PNPS 2.4.43 (Loss of One Salt Service Water Loop) for guidance.
00:20	0820	No fire at SSW Pump	Fire Brigade Leader reports there is no fire at SSW, but evidence of "Fire Ball" was present. SSW 'A' pump motor is charred.
00:25	0825	Alert Declared EAL HA2.1	Shift Manager (SM) declares an ALERT per EAL HA2.1 (Fire or explosion resulting in visible damage to any Table H-1 area containing safety system or components or Control Room indication of degraded performance of these systems.)
00:30	0830	Alert Announcement and Off-site Notifications	CR announcer announces Alert over plant PA system. Emergency Response Organization (ERO) is notified via the E-Plan notification system (Everbridge). State and local off-site notifications will be initiated and transmitted. Federal (NRC) offsite notification will be simulated.
00:35	0835	Emergency Response Organization (ERO) Mobilization	The ERO should be mobilizing and activating Emergency Response Facilities.
00:40	0840	Contingency Alert Message.	Controllers will issue this message only if the Alert has not been declared by this time.

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
01:00	0900	Wind Direction Shift starts and occurs.	The wind direction will start to shift from 315 degrees (Northwest) to 355 degrees (North) over a period of approximately 30 minutes.
01:30	0930	Facility Operational	TSC, OSC, EOF and JIC should be made operational. On-call EOF Emergency Director should take over command and control from the Shift Manager (SM)/Emergency Plant Operations Supervisor (EPOS).
01:35	0935	Safety Relief Valve (SRV) 'C' fails open.	Operators enter PNPS 2.4.29 (Stuck Open Safety Relief Valve). EPOS requests OSC brief and dispatch operators to take control of SRV at Alternate Shutdown Panel.
01:40	0940	Operators insert a Manual Scram but Reactor fails to Scram (Anticipated Transient without Scram – ATWS) with Reactor Power about 12%.	The Reactor Scram will fail due to the hydraulic binding of the Control Rod Drive Mechanisms. Operators enter Emergency Operating Procedure (EOP)-1, EOP-2 and PNPS 2.1.6 and 5.3.23. Operating crew will declare an Anticipated Transient Without Scram (ATWS, or failure to SCRAM).
01:40	0940	SRV 'C' closes upon Reactor Scram signal.	
01:40	0940	Operators initiate Standby Liquid Control (SLC). 1 st pump started fails 2 nd pump started will work.	EPOS will ask OSC to brief and dispatch personnel to investigate failure of SLC pump.

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
01:55	0955	Site Area Emergency (SAE) Declared EAL SS2.1	<p>The Emergency Director in the EOF is expected to upgrade the event to a SITE AREA EMERGENCY (SAE) per EAL SS2.1</p> <p>An automatic scram failed to shutdown the reactor (reactor power < 3%) AND Manual actions taken at the reactor control console do not shutdown the reactor as indicated by reactor power ≥ 3% (Note 6)</p> <p>Note 6: Manual actions taken at the reactor control console are the following:</p> <ul style="list-style-type: none"> - Reactor SCRAM pushbuttons - Reactor Mode Switch in SHUTDOWN - ATWS – Alternate Rod Insertion (ARI) pushbuttons
02:00	1000	Site Area Emergency (SAE) Announcement	CR announcer announces SAE over plant PA system. State and local off-site notifications will be initiated and transmitted of upgrade to SAE.
02:05- 02:40	1005- 1040	EPOS will request OSC brief and dispatch personnel for various tasks.	<p>At this point these will include:</p> <ul style="list-style-type: none"> - Closing Control Rod Drive 25 Valve (CRD-25) in the reactor building (RB) on the CRD Mezzanine. PNPS 5.3.23 - Bypassing ARI PNPS 5.3.23 - Walking down the diesels following start on High Drywell (DW) pressure - Investigating the failure of SLC pump 'A' (or 'B') - Bypass of the MSIV low level isolation PNPS 5.3.21
02:10	1010	Contingency SAE Message.	Controllers will issue this message only if a SAE has not been declared by this time.

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
02:10	1010	Main Steam and Off-gas Rad Monitors alarm.	Main Steam and Off-gas radiation levels are trending upward due to fuel failure occurring with ATWS sequence of events. PNPS procedure 2.4.40 directs Main Steam Isolation Valve (MSIV) closure upon reaching High-High set point. Crew may isolate MSIVs before reaching set point.
02:15	1015	Operators successfully insert all control rods	Exit EOP-2 enter EOP-1 Commence Reactor Cooldown
02:20	1020	Small Drywell (D/W) Leak occurs. D/W pressure begins to rise Containment radiation levels also begin to rise.	
02:25	1025	Drywell pressure exceeds 2.2 psig	ERO should recognize that the Drywell pressure exceeding 2.2 psig is an EAL entry condition for FA1.1 Fission Product Barriers at the ALERT Level (Loss of the Reactor Coolant System - RCS). However, with a SAE declared, no change or escalation is needed.
2:40	1040	Drywell Containment High Radiation Monitors are exceeding 800 R/hr.	With Drywell Containment High Radiation Monitors exceeding 800 R/hr, this is an EAL entry condition for FS1.1 Fission Product Barriers at the Site Area Emergency Level (Loss of the Fuel Clad and Loss of the RCS). The crew and ERO staff should recognize the loss of both Fuel Clad Barrier and RCS; however, the Primary Containment barrier is still intact and therefore will not result in an escalation at this time.

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
03:10	1110	Reactor Core Isolation Cooling (RCIC) System Steam Leak	<p>Operators should determine that a steam leak has occurred in the RCIC Quadrant. RCIC fails to isolate. The RCIC steam supply isolations will not close. Attempts from the simulator control room are unsuccessful. The following alarms/indications are received:</p> <p>Fire Alarm at Zone 3A (The fire alarm is due to the steam leak. There is no fire in this area.) Steam Leakage Area Temp Hi</p> <p>A radioactive steam leak is occurring into the Reactor Building. (Area Temperature, Fire Alarm and Area Radiation Monitor on Rx Bldg Elevation 23' are alarming.)</p> <p>Operators should enter EOP-04 (Secondary Containment Control).</p>
03:20	1120	Crew request EOP-4 actions and investigate RCIC steam leak.	<p>Requests for operator and Radiation Protection (RP) to perform actions IAW EOP-04. Check quad water levels, operate area coolers and commence RB surveys per procedure PNPS 5.3.33 (Secondary Containment Radiation Surveys for EOP-04).</p> <p>When operator and RP proceed for EOP-4 actions and investigating leak, this team will report the following:</p> <p>RP- radiation levels going to the RCIC quadrant are trending up and elevated but as soon as the team gets half-way down the stairs the steam environment will prevent access into the RCIC quadrant area.</p> <p>OPS- All available area coolers were started as requested.</p>

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
03:20	1120	Main Stack Radiation Levels rise	<p>Operators recognize High Main Stack Radiation. The following alarms/indications are received:</p> <p>Stack Gas Hi Hi Radiation - CP600R-A8 Stack Gas Hi Radiation - CP600R-B8</p>
03:25	1125	<p>General Emergency (GE) Declared EAL FG1.1</p> <p>Loss of any two Fission Product Barriers and Loss or Potential Loss of the Third Barrier (Table F-1).</p>	<p>Upon confirmation of the status of potential loss and loss of the Fuel Clad Barrier, RCS Barrier and Primary Containment Barrier, the EOF Emergency Director should declare a General Emergency per EAL FG1.1.</p> <p>This should include declaring the potential loss or loss of the Fission Product Barriers based on the following EAL conditions contained in EP-IP-100.1 Table F-1.</p> <p><u>Fuel Clad Barrier</u></p> <p><u>Loss of Fuel Clad</u> D.2 Drywell High Range Area Radiation Monitor (RIT-1001-606A and B) > 800 R/hr</p> <p><u>RCS Barrier</u></p> <p><u>Loss of the RCS Barrier</u> B.8 PC pressure > 2.2 psig due to RCS leakage</p> <p>D.11 Drywell High Range Area Radiation Monitor (RIT-1001-606A and B) > 65 R/hr</p> <p><u>Primary Containment (PC) Barrier:</u></p> <p><u>Loss of PC</u> C. 20 Unisolable primary system discharge outside PC resulting in Secondary Containment area radiation or temperature above any Maximum Safe Operating Value (EOP-4 Table L</p>

**Pilgrim Nuclear Power Station
March 21st 2013 Pilgrim Drill and FEMA Off-site Evaluated Exercise**

NARRATIVE SUMMARY

Elapsed Time* Hr:min	Actual Time*	Event	Details/Expected Actions
03:30	1130	GE Announcement	CR announcer announces GE over Public Address System. Offsite notifications are made.
03:40	1140	EOP-05 Actions Crew request support for Control Room High Efficiency Air Filtration System (CRHEAFS) initiation and TB fans operation.	The radiation levels from the steam leak will cause the Main Stack readings to exceed 10,000 cps for greater than 15 minutes. Simulator CR crew will take action per EOP-05 (Rad Release Control). OSC team(s) may be requested to initiate CRHEAFS (PNPS 2.2.46 - CR, Cable Spreading Room, and Computer Room HVAC System) and start available turbine building roof exhaust fans.
03:40	1140	Contingency GE Message.	Controllers will issue this message only if a GE has not been declared by this time.
04:45	1245	Repairs to outboard RCIC isolation valve have been completed.	Maintenance personnel are successful in repairing the outboard RCIC Steam isolation valve and the valve will close, terminating the release. The RCIC steam leak has been isolated. The Main stack radiation monitors will start to trend downward.
05:15	1315	Drill/Exercise Termination.	The drill/exercise will be terminated when sufficient time has elapsed to allow appropriate objectives to be demonstrated or evaluated. Exercise termination will not be announced until demonstration has been confirmed with off-site jurisdiction as needed.

**MASSACHUSETTS
EVALUATION AREAS AND EXTENT OF PLAY
PILGRIM NUCLEAR POWER STATION EXERCISE
November 7, 2012**

Overview

The following organizations/locations will demonstrate in 2012:

State Emergency Operations Center

Massachusetts Emergency Management Agency
Massachusetts Department of Public Health
Massachusetts State Police
Massachusetts Department of Transportation
Massachusetts National Guard
Massachusetts Department of Mental Health
Mass 2-1-1 Call Center
U.S. Coast Guard
Pilgrim Nuclear Power Station Liaison
American Red Cross
Federal Emergency Management Agency Region I
Pilgrim Station Liaison

Region II Emergency Operations Center

Massachusetts Emergency Management Agency – Region II
Massachusetts State Police
Massachusetts Department of Transportation
Massachusetts National Guard
Pilgrim Nuclear Power Station Liaison
American Red Cross
Massachusetts Bay Transportation Authority (MBTA) Representative
Department of Corrections – Bridgewater
Plymouth County Sheriff Emergency Management Agency

Emergency Operations Facility

Pilgrim Nuclear Power Station
Massachusetts Emergency Management Agency
Massachusetts Department of Public Health

Radiological Field Monitoring and Sampling Teams

Pilgrim Nuclear Power Station
Massachusetts Department of Public Health/Radiation Control Program

Joint Information Center

Pilgrim Nuclear Power Station
Massachusetts Emergency Management Agency



EAS Radio Stations

WBZ 1030 AM

Risk Jurisdictions

Carver EOC
Duxbury EOC
Kingston EOC
Marshfield EOC
Plymouth EOC

Support Jurisdictions

Braintree Command Center
Bridgewater EOC
Taunton EOC

Schools [NOTE: *Indicates KI Distribution Plan in place] Out of Sequence

Duxbury:

Alden Elementary*
Duxbury High School*
Duxbury Middle School*

Kingston:

Silver Lake Regional Middle School*
Silver Lake Regional High School*

Plymouth: [NOTE: *Indicates KI Distribution Plan in place] Out of Sequence

Com Care TAP Program
Pilgrim Academy*

Day Care Centers [NOTE: *Indicates KI Distribution Plan in place] Out of Sequence

Duxbury:

Elements Montessori*
Good Shepherd Christian Academy*
Pilgrim Area Collaborative*

Plymouth:

Crayon College



Garden of Knowledge
Leaping Frogs Preschool
Learning Safari
Miss Joanne’s Bright Beginnings
Rising Tide Public Charter School*
Room 2 Grow
Tiny Town Children’s Center
Small Scholars Preschool
Hop, Skip and Jump, Inc.

Special Facilities: [NOTE: *KI Distribution Plan in place] Out of Sequence

Plymouth:

Stafford Hill Living
High Point Treatment Center
Habilitation Assistance
Emeritus Assisted Living
Community Connections
Jordan Hospital*

Camps: [NOTE: * KI Distribution Plan in place} Out of Sequence

Carver:

Camp Clear

Plymouth:

Camp Squanto
Camp Bournedale
Camp Cachalot
Camp Massasoit
Camp Wind in the Pines
Old Colony YMCA Program

OTHER FACILITIES TO BE EXERCISED

Bridgewater Reception Center (August 11, 2012)

Kingston TSA (TBD)

Plymouth TSA (TBD)

Good Samaritan Medical Center will be demonstrated October 2012

KIDS Site Brockton High School (1/26/12) (Successfully)

NOTE: "On the Spot" corrections approved for the below mentioned sub-elements, as per FEMA Region 1 MEMORANDUM dated, February 27, 2012.

Note: If during the exercise, a participant demonstrates sub-element 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2, 4.a.3, 4.b.1 or 5.b.1, 6.a.1 and 6.b.1 unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an "on the spot" re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

EVALUATION AREA 1: Emergency Operations Management

Sub-element 1.a – Mobilization

Intent

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

Criterion 1.a.1: OROs 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)

Extent of Play

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. 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 out-of-sequence demonstrations 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 otherwise indicated in the extent of play agreement.

Massachusetts Extent of Play

State EOC:—Massachusetts Emergency Management (MEMA) SEOC emergency staff, including the Massachusetts Emergency Management Team staff (Massachusetts Department of Public Health (MDPH), Massachusetts Department of Transportation (MassDOT), Massachusetts Department of Mental Health (MDMH), Massachusetts State Police (MSP), Massachusetts Army National Guard (MANG), and American Red Cross (ARC), the State Public Information Line staff, the Federal Emergency Management Agency (FEMA), and the Pilgrim Nuclear Power Station Liaison will be prestaged at TBD in the SEOC cafeteria, and upon notification, will report to the EOC, using a ten-minute per hour travel time. The notification process will be completed, and call down rosters will be shown to the FEMA Evaluator.

The MASS 211 Call Center will be activated for an event at Pilgrim Station.

Region II EOC—MEMA Region II EOC staff and emergency volunteer staff will pre-staged at TBD outside the Region II EOC, and upon notification, will report to the Region II EOC, using a ten-minute per hour travel time (note: MEMA Region II staff who report prior to 0800 will

report at their normal reporting time). The notification process will be completed and call down rosters will be shown to the FEMA Evaluator.

Operations/communications staff will show call down or computerized lists to the FEMA evaluator.

Emergency Operations Facility (EOF) – Massachusetts Emergency Management Agency (MEMA) and Massachusetts Department of Public Health (MDPH) personnel will be in the area awaiting notification. Once notified to report, they will use a compressed time:10 minutes/hour of normal travel response time.

Joint Media Center – MEMA personnel will be in the area awaiting notification. Once notified to report, they will use a compressed time:10 minutes/hour of normal travel response time.

Region II – MEMA Region II emergency staff who normally work at other locations will arrive at the EOC at the times they normally report for work, unless they are paged/called and directed to report for duty at an earlier time. MEMT and volunteer staff will be in the area awaiting notification. Once notified to report, they will use a compressed time: 10 minutes/hour of normal travel response time.

Operations/communications staff will show call down and computerized lists to the FEMA evaluator.

NIAT Field Monitoring Team Personnel: Field Team personnel will be in the area awaiting notification. Once notified to report, they will use a compressed time:10 minutes/hour of normal travel response time.

State Police Troop D – Will dispatch representatives to the Region II EOC, but traffic and access control personnel will not be mobilized (see Evaluation Area 3.d.).

Plymouth County Sheriff's Emergency Management Agency (PCSEMA) – Will demonstrate communications with emergency staff and obtain ETA; however, staff and vehicles will not be mobilized, except for the PCSEMA liaison who will report to the MEMA Region II EOC.

Bridgewater Reception Center – Call down of staff to confirm their availability and ETA will be demonstrated in sequence on November 7, 2012. Reception Center staff will be pre-staged August 11, 2012 at the facility at the time the demonstration is scheduled to begin.

Transportation Providers – Calls will be made to ten transportation providers to verify the contact information and resources (drivers and vehicles) under the LOA. A Controller message will provide the number of vehicles and drivers available for exercise play. No vehicles or personnel will be mobilized.

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have facilities to support the emergency response.

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H.3)

Extent of Play

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). However, FEMA will evaluate all facilities, as a baseline, during the first exercise under the new Evaluation Criteria.

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

Massachusetts Extent of Play

The Plymouth EOC and Taunton EOC have changed locations. These new locations will be evaluated to establish capability of supporting emergency response.

The State EOC in Framingham has undergone renovations and enhancement. This facility will be evaluated to establish capability of supporting emergency response.

Sub-element 1.c - Direction and Control

Intent

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

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

Extent of Play

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 otherwise noted above or indicated in the extent of play agreement.

Massachusetts Extent of Play

EPZ EOCs: If any towns are directed to evacuate, EOC personnel will demonstrate continuity of government through a discussion of logistics. Closing of the local EOC and relocation to a facility outside the EPZ will be simulated through discussion.

ARCA – Duxbury

ISSUE NO.: 48-10-1c1-A-02

CRITERION: Key personnel with functional roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible.

CONDITION: The Duxbury Emergency Management Director (EMD) injected a non-scenario event involving a bridge closure for an evacuation route to support evacuees from Sub-area 4 without prior coordination with the MEMA Controller and the impacted jurisdictions of Plymouth and Marshfield. The areas affected by the simulated closure of Powder Point Bridge are Duxbury Beach, Gurnet Point, Saquish Neck and Clark's Island. By the time the controller was aware of the inject, operations and the other jurisdictions had already been notified and, in his estimation, was too far gone to stop.

POSSIBLE CAUSE: The EMA's stated intent was to draw attention to the complex arrangement whereby Duxbury historically responds to emergency events in the affected areas which are under the jurisdiction of both Plymouth and Duxbury. The current arrangement is conducted under a Memorandum of Agreement between the jurisdictions. Controller training may not have adequately covered how to address scenario variances.

REFERENCE: NUREG-0654, A.1.d and Pilgrim Exercise Plan, 2010-10-19

EFFECT: The unplanned action to simulate the closure of the bridge departed from the approved exercise scenario and resulted in additional work for the EOC staff that was involved with actions to support the ongoing exercise. Additionally, the neighboring jurisdictions of Plymouth and Marshfield were also distracted by calls to simulate siren activation and route alerting to notify residents of the bridge closure and to establish traffic control points. In summary, the action distracted from an otherwise effective operation; however, the Plymouth and Marshfield response to the bridge closure inject were timely and effective.

RECOMMENDATION: Ensure the EMD is made aware of the proper discipline and controls necessary for an exercise and to assure future operations do not deviate from the scenario and extent of play. Should there be a need for similar events in future exercises, the input should be properly presented to MEMA and FEMA at the exercise planning conferences.

Controller training should cover methods to address scenario variances.

Sub-element 1.d – Communications Equipment

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) 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.

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)

Extent of Play

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 exists. 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, as negotiated in the extent of play agreement.

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 otherwise noted above or in the extent of play agreement.

Massachusetts Extent of Play

Contact with locations not playing will be simulated. See Extent of Play Overview for the listing of facilities that will be playing during the exercise (pages 1-4).

NOTE: “On the Spot” corrections approved for the fore mentioned sub-element. That portion of the evaluation element relating to both the proper functionality of communications systems and the proper use of those systems. This portion of the criterion that deals with performance only.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an “on the spot” re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Sub-element 1.e – Equipment and Supplies to Support Operations

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have emergency equipment and supplies adequate to support the emergency response.

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H.7,10; J.10.a, b, e, J.11; K.3.a)

Extent of Play

Equipment within the facility (facilities) 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 should be inspected, inventoried, and operationally checked before each use. Instruments should be calibrated in accordance with the manufacturer’s recommendations. Unmodified CDV-700 series instruments and other instruments without a manufacturer’s recommendation should be calibrated annually. 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 calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument.

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 dosimetry should allow individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO’s plans and procedures.

Dosimetry 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 location(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 a certified private or State laboratory indicating that the KI supply remains potent, in accordance with U. S. Pharmacopoeia standards.

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.

Massachusetts Extent of Play

Documentation of dosimetry inspection, dosimetry inventory and KI inventory will be available for review at the Region II office. Note: FEMA will provide copies of the Annual Letter of Certification to evaluators, as appropriate.

Two MA NIAT Field Teams will be dispatched from the Pilgrim EOF in accordance with Section D.4 of the NIAT Handbook. Controller messages will provide simulated monitoring data.

NOTE: "On the Spot" corrections approved for the fore mentioned sub-element. That portion of the evaluation element where players are initially unable to show proper equipment, supplies or documentation. This portion of the criterion that deal with performance only.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an "on the spot" re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

EVALUATION AREA 2: Protective Action Decision-Making

Sub-element 2.a - Emergency Worker Exposure Control

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (OROs) 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.

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure 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, J.10. e, f)

Extent of Play

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.

Massachusetts Extent of Play

Protective action decisions are demonstrated at the Massachusetts State EOC based upon information provided from the EOF.

Radiation Control Program EOF staff will analyze utility, field team and meteorological data provided at the EOF to make a recommendation to the State EOC for their consideration in making protective action decisions.

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Sub-element 2.b. - Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the capability to use all available data to independently project integrated dose 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 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, and situations that create higher than normal risk from evacuation.

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 onsite and offsite environmental conditions. (NUREG-0654, I.8, 10 and Supplement 3)

Extent of Play

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 (PAR) 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 independently 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 PAG 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 plan and procedures and completed, as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Massachusetts Extent of Play

This evaluation area will be demonstrated in accordance with the NIAT Handbook in the context of the exercise scenario.

The State EOC decision making team will evaluate the protective action recommendations of the NIAT accident assessment team and develop appropriate protective action decisions.

Protective action recommendations will be made in accordance with the MARERP and NIAT Handbook.

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

Extent of Play

Offsite Response Organizations (ORO) should have the capability to make both initial and subsequent PADs. They should demonstrate the capability to make initial PADs in 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 monitoring 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 offsite 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 sheltering and evacuation. 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.

Massachusetts Extent of Play

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Protective action decisions are demonstrated at the Massachusetts State EOC based upon information provided by the EOF. MEMA and MDPH Radiation Control Program staff will

analyze utility, field team and meteorological data provided at the EOF to make a recommendation to the State EOC for their consideration in making protective action decisions.

Sub-element 2.c - Protective Action Decisions Consideration for the Protection of Special Populations

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) 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.

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

Extent of Play

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. Contacts with public school systems/districts must be actual.

In accordance with plans and/or procedures, OROs and/or officials of 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 (i.e., 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).

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.

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.

Massachusetts Extent of Play

Protective action decisions, including those for special population groups, are demonstrated at the Massachusetts State EOC based upon information provided by MEMA and MDPH Radiation Control Program staff at the EOF. MEMA and MDPH Radiation Control Program staff will analyze utility, field team and meteorological data provided at the EOF to make a recommendation to the State EOC for their consideration in making protective action decisions.

Sub-element 2.d. –Radiological Assessment and Decision-Making for the Ingestion Exposure Pathway

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the means to assess the radiological consequences for the ingestion exposure pathway, relate them to the appropriate PAGs, and make timely, appropriate protective action decisions to mitigate exposure from the ingestion pathway.

During an accident at a nuclear power plant, a release of radioactive material may contaminate water supplies and agricultural products in the surrounding areas. Any such contamination would likely occur during the plume phase of the accident and, depending on the nature of the release, could impact the ingestion pathway for weeks or years.

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO's planning criteria. (NUREG-0654, J.11)

Extent of Play

It is expected that the Offsite Response Organizations (ORO) will take precautionary actions to protect food and water supplies, or to minimize exposure to potentially contaminated water and food, in accordance with their respective plans and procedures. Often such precautionary actions are initiated by the OROs based on criteria related to the facility's Emergency Classification Levels (ECL). Such actions may include recommendations to place milk animals on stored feed and to use protected water supplies.

The ORO should use its procedures (for example, development of a sampling plan) to assess the radiological consequences of a release on the food and water supplies. The ORO's assessment should include the evaluation of the radiological analyses of representative samples of water, food, and other ingestible substances of local interest from potentially impacted areas, the characterization of the releases from the facility, and the extent of areas potentially impacted by the release. During this assessment, OROs should consider the use of agricultural and watershed data

within the 50-mile EPZ. The radiological impacts on the food and water should then be compared to the appropriate ingestion PAGs contained in the ORO's plan and/or procedures. (The plan and/or procedures may contain PAGs based on specific dose commitment criteria or based on criteria as recommended by current Food and Drug Administration guidance.) Timely and appropriate recommendations should be provided to the ORO decision-makers group for implementation decisions. As time permits, the ORO may also include a comparison of taking or not taking a given action on the resultant ingestion pathway dose commitments.

The ORO should demonstrate timely decisions to minimize radiological impacts from the ingestion pathway, based on the given assessments and other information available. Any such decisions should be communicated and, to the extent practical, coordinated with neighboring and local OROs.

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

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.

Massachusetts Extent of Play

This sub-element was demonstrated successfully in 2010.

Sub-element 2.e. – Radiological Assessment and Decision-Making Concerning Relocation, Re-entry, and Return

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the capability to make decisions on relocation, re-entry, and return of the general public. These decisions are essential for the protection of the public from the direct long-term exposure to deposited radioactive materials from a severe accident at a nuclear power plant.

Criterion 2.e.1: Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654, I.10; M.1)

Extent of Play

Relocation: OROs should demonstrate the capability to estimate integrated dose in contaminated areas and to compare these estimates with PAGs, apply decision criteria for relocation of those individuals in the general public who have not been evacuated but where projected doses are in excess of relocation PAGs, and control access to evacuated and restricted areas. Decisions are

made for relocating members of the evacuated public who lived in areas that now have residual radiation levels in excess of the PAGs.

Determination of areas to be restricted should be based on factors such as the mix of radionuclides in deposited materials, calculated exposure rates vs. the PAGs, and field samples of vegetation and soil analyses.

Re-entry: *Decisions should be made regarding the location of control points and policies regarding access and exposure control for emergency workers and members of the general public who need to temporarily enter the evacuated area to perform specific tasks or missions.*

Examples of control procedures are: the assignment of, or checking for, direct-reading and non-direct-reading dosimetry for emergency workers; questions regarding the individual's objectives and locations expected to be visited and associated time frames; availability of maps and plots of radiation exposure rates; advice on areas to avoid; and procedures for exit including: monitoring of individuals, vehicles, and equipment; decision criteria regarding decontamination; and proper disposition of emergency worker dosimetry and maintenance of emergency worker radiation exposure records.

Responsible OROs should demonstrate the capability to develop a strategy for authorized re-entry of individuals into the restricted zone, based on established decision criteria. OROs should demonstrate the capability to modify those policies for security purposes (e.g., police patrols), for maintenance of essential services (e.g., fire protection and utilities), and for other critical functions. They should demonstrate the capability to use decision-making criteria in allowing access to the restricted zone by the public for various reasons, such as to maintain property (e.g., to care for farm animals or secure machinery for storage), or to retrieve important possessions. Coordinated policies for access and exposure control should be developed among all agencies with roles to perform in the restricted zone. OROs should demonstrate the capability to establish policies for provision of dosimetry to all individuals allowed to re-enter the restricted zone. The extent that OROs need to develop policies on re-entry will be determined by scenario events.

Return: *Decisions are to be based on environmental data and political boundaries or physical/geological features, which allow identification of the boundaries of areas to which members of the general public may return. Return is permitted to the boundary of the restricted area that is based on the relocation PAG.*

Other factors that the ORO should consider are, for example: conditions that permit the cancellation of the Emergency Classification Level and the relaxation of associated restrictive measures; basing return recommendations (i.e., permitting populations that were previously evacuated to reoccupy their homes and businesses on an unrestricted basis) on measurements of radiation from ground deposition; and the capability to identify services and facilities that require restoration within a few days and to identify the procedures and resources for their restoration. Examples of these services and facilities are: medical and social services, utilities, roads, schools, and intermediate term housing for relocated persons.

This sub-element was demonstrated successfully in 2010.

EVALUATION AREA 3: Protective Action Implementation

Sub-element 3.a – Implementation of Emergency Worker Exposure Control

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 dosimetry and permanent record dosimetry; the reading of direct-reading dosimetry by emergency workers at appropriate frequencies; maintaining a radiation dose record for each emergency worker; and 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.

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.a,b)

Extent of Play

OROs should demonstrate the capability to provide appropriate direct-reading and permanent record dosimetry, dosimeter 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 dosimetry. 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.

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.

Massachusetts Extent of Play

EPZ EOCs: Dosimetry packets will be issued to a minimum of five individuals who will be working inside each EPZ EOC. Knowledge of the use of dosimetry and Massachusetts policies on dosimetry will be demonstrated through an interview with the FEMA Evaluator and only with individuals issued dosimetry.

Actual distribution and ingestion of KI will not occur. Empty KI tablet containers (small zip-lock bags) will be included in the dosimetry packets for emergency workers.

NOTE: "On the Spot" corrections approved for the fore mentioned sub-element. That portion of the evaluation element dealing with issuing of dosimetry and briefings. Also to be included is the demonstration by emergency worker knowledge of radiation control.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an "on the spot" re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Sub-element 3.b – Implementation of KI Decision

Intent

This sub-element is derived from NUREG-0654²¹⁰, which provides that Offsite Response Organizations (ORO) should have the capability to provide radioprotective drugs for 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 and is reflected in ORO's plans and procedures. Provisions should include the availability of adequate quantities, storage, and means of the distribution of radioprotective drugs.

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 institutionalized individuals is maintained. (NUREG-0654, J. 10. e)

Extent of Play

Offsite Response Organizations (ORO) should demonstrate the capability to make KI available to institutionalized individuals, and, where provided for in the ORO plan and/or procedures, to members of the general public. OROs should demonstrate the capability to accomplish distribution of KI consistent with decisions made. Organizations should have the capability to develop and maintain lists of 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. OROs 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.

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.

Massachusetts Extent of Play

Schools, Day Care, institutionalized and special facility staff who administer KI, will be interviewed out of sequence by the FEMA Evaluator.

Brockton KI Dispensing Site (KIDS) was demonstrated 1/2012.

NOTE: "On the Spot" corrections approved for the fore mentioned sub-element.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an "on the spot" re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) 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.

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

Extent of Play

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.

Massachusetts Extent of Play

SEOC: The U.S. Coast Guard representative will establish contact with the District Command Center and communicate with them throughout the exercise. No Broadcasting over the Urgent Marine Information Broadcast will occur. Only initial communication with the Captain of the Port will be established thereafter contact will be simulated.

Region II: Calls will be made to ten transportation providers to verify the contact information and resources (drivers and vehicles) under the LOA. A Controller message will provide the number of vehicles and drivers available for exercise play. No vehicles or personnel will be mobilized. A list of all transportation providers will be provided to the evaluator.

Region II: Special Facility Coordinator and staff will demonstrate all appropriate communications with EPZ community EOC to verify number of vehicles and beds. Evacuation of special facilities will not occur. A Controller message will provide the number of estimated bed spaces in host hospitals.

EPZ EOCs: All special facilities will receive initial contact.

EPZ EOC: Staff will simulate contact with persons with special needs. In an interview with the FEMA evaluator, staff will explain the process of notifying those individuals who have identified themselves as needing help during an emergency. The list of special needs individuals will be shown to the FEMA evaluator; however, the information is confidential and copies will not be provided to the evaluator.

The capability to correctly operate a TTY will be demonstrated in each EPZ EOC by sending and receiving one test message to and from a TTY at their 24 hour warning point. No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

Identified special facilities and camps will be visited out of sequence by a FEMA evaluator, who will interview key staff..

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

Extent of Play

Public school systems/districts shall demonstrate the ability to implement protective action decisions for students. The demonstration shall be made as follows: At least one school in each affected school system or district, 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 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.

The provisions of this criterion also apply to any private schools, private kindergartens and day care centers that participate in REP exercises pursuant to the ORO's plans and procedures as negotiated in 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.

Massachusetts Extent of Play

Region II: The MEMA Region II Special Facilities Coordinator, in an interview with the FEMA evaluator, will provide a list of schools located outside the EPZ with students who reside within the EPZ. Calls to schools outside with EPZ will be simulated and logged.

EPZ EOCs: Initial notification will be made to all school and day care centers. [In an interview the FEMA evaluator, staff will discuss the process of notifying schools outside the EPZ who have student from their town in attendance. Calls to the schools will be simulated.](#)

EPZ Schools: Participating schools in the EPZ communities were visited out of sequence by a FEMA evaluator, who interviewed key staff regarding their response plan. (See Extent of Play Overview for the listing of facilities pages 1-4).

Day Care Centers: Participating facilities were visited out of sequence by a FEMA evaluator who interviewed key staff regarding their response plan. (See Extent of Play Overview for the listing of facilities pages 1-4).

Sub-element 3.d. – Implementation of Traffic and Access Control

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the capability to implement protective action plans, including relocation and restriction of access to evacuated/sheltered 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.

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)

Extent of Play

OROs should demonstrate the capability to select, establish, and staff appropriate traffic and access control points, consistent with protective action decisions (for example, evacuating, sheltering, and relocation), in a timely manner. OROs 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 OROs 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 noted above or otherwise indicated in the extent of play agreement.

The EOC local highway representative and the Local Police representative will participate in a discussion of procedures and resources available for traffic control. No personnel or equipment will be deployed to field locations.

NOTE: “On the Spot” corrections approved for the fore mentioned sub-element. Appropriate traffic and access control established. Accurate instructions are provided to traffic and access control point personnel.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an “on the spot” re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10.k)

Extent of Play

OROs 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, all contacts, actual or simulated, 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 noted above or otherwise indicated in the extent of play agreement.

Massachusetts Extent of Play

Each EPZ Local EOC will demonstrate decision-making regarding rerouting of traffic following a traffic impediment through an interview with the FEMA Evaluator. No personnel or equipment will be dispatched to the simulated accident scene.

NOTE: “On the Spot” corrections approved for the fore mentioned sub-element. Impediments to evacuation are identified and resolved.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an “on the spot” re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Sub-element 3.e – Implementation of Ingestion Pathway Decisions

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to implement protective actions, based on criteria recommended by current Food and Drug Administration guidance, for the ingestion pathway zone (IPZ), the area within an approximate 50-mile radius of the nuclear power plant. This sub-element focuses on those actions required for implementation of protective actions.

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. (NUREG-0654, J.9, 11)

Extent of Play

Applicable OROs should demonstrate the capability to secure and utilize current information on the locations of dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points to implement protective actions within the ingestion pathway EPZ.

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

Massachusetts Extent of Play

This sub-element was successfully demonstrated in 2010.

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, J.9, 11)

Extent of Play

Development of measures and strategies for implementation of Ingestion Pathway Zone IPZ protective actions should be demonstrated by formulation of protective action information for the general public and food producers and processors. This includes either pre-distributed public information material in the IPZ or the capability for the rapid distribution of appropriate pre-printed and/or camera-ready information and instructions to pre-determined individuals and businesses. OROs should demonstrate the capability to control, restrict or prevent distribution of contaminated food by commercial sectors. Exercise play should include demonstration of communications and coordination between organizations to implement protective actions. Actual field play of implementation activities may be simulated. For example, communications

and coordination with agencies responsible for enforcing food controls within the IPZ should be demonstrated, but actual communications with food producers and processors may be simulated.

For example, communications and coordination with agencies responsible for enforcing food controls within the IPZ should be demonstrated, but actual communications with food producers and processors may be simulated.

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.

Massachusetts Extent of Play

This sub-element was successfully demonstrated in 2010.

Sub-element 3.f – Implementation of Relocation, Re-entry, and Return Decisions

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) should demonstrate the capability to implement plans, procedures, and

decisions for relocation, re-entry, and return. Implementation of these decisions is essential for the protection of the public from the direct long-term exposure to deposited radioactive materials from a severe accident at a commercial nuclear power plant.

Criterion 3.f.1: Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1, 3)

Extent of Play

Relocation: *OROs should demonstrate the capability to coordinate and implement decisions concerning relocation of individuals, not previously evacuated, to an area where radiological contamination will not expose the general public to doses that exceed the relocation PAGs. OROs should also demonstrate the capability to provide for short-term or long-term relocation of evacuees who lived in areas that have residual radiation levels above the (first-, second-, and fifty-year) PAGs.*

Areas of consideration should include the capability to communicate with OROs regarding timing of actions, notification of the population of the procedures for relocation, and the notification of, and advice for, evacuated individuals who will be converted to relocation status in situations where they will not be able to return to their homes due to high levels of contamination. OROs should also demonstrate the capability to communicate instructions to the public regarding relocation decisions.

Re-entry: OROs should demonstrate the capability to control re-entry and exit of individuals who need to temporarily re-enter the restricted area, to protect them from unnecessary radiation exposure and for exit of vehicles and other equipment to control the spread of contamination outside the restricted area. Monitoring and decontamination facilities will be established as appropriate.

Examples of control procedure subjects are: (1) the assignment of, or checking for, direct-reading and non-direct-reading dosimetry for emergency workers; (2) questions regarding the individuals' objectives and locations expected to be visited and associated timeframes; (3) maps and plots of radiation exposure rates; (4) advice on areas to avoid; and procedures for exit, including monitoring of individuals, vehicles, and equipment, decision criteria regarding contamination, proper disposition of emergency worker dosimetry, and maintenance of emergency worker radiation exposure records.

Return: OROs should demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase. OROs should demonstrate the capability to identify and prioritize services and facilities that require restoration within a few days, and to identify the procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads, schools, and intermediate term housing for relocated persons.

Communications among OROs for relocation, re-entry, and return may be simulated; however all simulated or actual contacts should be documented. These discussions may be accomplished in a group setting.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, nuclear insurers, 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.

Massachusetts Extent of Play

This sub-element was successfully demonstrated in 2010.

EVALUATION AREA 4: Field Measurement And Analysis

Sub-element 4.a – Plume Phase Field Measurements and Analyses

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) 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 detect 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. Adequate equipment and procedures are essential to such field measurement efforts.

Criterion 4.a.1: [RESERVED]

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.7, 8, 9)

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, H.12; I.8, 11; J.10.a)

Extent of Play

Responsible Offsite Response Organizations (ORO) 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 licensee 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 licensee 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.

OROs should use Federal resources as identified in the Federal Radiological Emergency Response Plan (FRERP), and other resources (e.g., compacts, utility, 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.

Massachusetts Extent of Play

NIAT Field Teams are managed by the Field Team Coordinator who is located at the utility EOF. He will brief and dispatch two teams to sampling locations in accordance with the NIAT Handbook, Section D.4, as dictated by scenario play.

NIAT Field Team personnel will prepare sample media, survey forms, and chain of custody documents as if they were being transferred to the lab for analysis. Actual transport of samples will be simulated.

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. 9)

Extent of Play

Field teams should demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates and ambient radiation 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

ORO. All 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's plan and/or procedures.

ORO should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, utility, 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.

Massachusetts Extent of Play

Two MA NIAT Field Teams will be dispatched from the EOF in accordance with the NIAT Handbook. Once, dispatched, only disposable gloves will be used for actual exercise play. Charcoal cartridges will be used instead of silver zeolite.

The NIAT Field Teams will collect one complete sample (monitoring and air sample) as specified by the procedures in Section D.4 of the NIAT Handbook.

NOTE: “On the Spot” corrections approved for the fore mentioned sub-element. That portion of the evaluation element that demonstrates one complete sample.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an “on the spot” re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Sub-element 4.b – Post Plume Phase Field Measurements and Sampling

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to assess the actual or potential magnitude and locations of radiological hazards in the IPZ and for relocation, re-entry and return measures.

This sub-element focuses on the collection of environmental samples for laboratory analyses that are essential for decisions on protection of the public from contaminated food and water and direct radiation from deposited materials.

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making. (NUREG-0654, I.8; J.11)

Extent of Play

The ORO’s field team should demonstrate the capability to take measurements and samples, at such times and locations as directed, to enable an adequate assessment of the ingestion pathway and to support re-entry, relocation, and return decisions. When resources are available, the use of aerial surveys and in-situ gamma measurement is appropriate. All 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’s plan and/or procedures.

Ingestion pathway samples should be secured from agricultural products and water. Samples in support of relocation and return should be secured from soil, vegetation, and other surfaces in areas that received radioactive ground deposition.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, utility, nuclear insurers, 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.

Massachusetts Extent of Play

This sub-element will be demonstrated at Seabrook in 2012.

Sub-element 4.c - Laboratory Operations

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) should have the capability to perform laboratory analyses of radioactivity in air, liquid, and environmental samples to support protective action decision-making.

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654, C.3; J.11)

Extent of Play

The laboratory staff should demonstrate the capability to follow appropriate procedures for receiving samples, including logging of information, preventing contamination of the laboratory, preventing buildup of background radiation due to stored samples, preventing cross contamination of samples, preserving samples that may spoil (e.g., milk), and keeping track of sample identity. In addition, the laboratory staff should demonstrate the capability to prepare samples for conducting measurements.

All instruments should be inspected, inventoried, and operationally checked before each use. Instruments should be calibrated in accordance with the manufacturer's recommendations. Unmodified CDV-700 series instruments and other instruments without a manufacturer's recommendation should be calibrated annually. 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 calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument.

The laboratory should be appropriately equipped to provide analyses of media, as requested, on a timely basis, of sufficient quality and sensitivity to support assessments and decisions as anticipated by the ORO's plans and procedures. The laboratory (laboratories) instrument calibrations should be traceable to standards provided by the National Institute of Standards and Technology. Laboratory

methods used to analyze typical radionuclides released in a reactor incident should be as described in the plans and procedures. New or revised methods may be used to analyze atypical radionuclide releases (e.g., transuranics or as a result of a terrorist event) or if warranted by circumstances of the event. Analysis may require resources beyond those of the ORO.

The laboratory staff should be qualified in radioanalytical techniques and contamination control procedures.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, utility, nuclear insurers, 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.

Massachusetts Extent of Play

This sub-element will be demonstrated at Seabrook in 2012.

EVALUATION AREA 5: Emergency Notification and Public Information

Sub-element 5.a – Activation of the Prompt Alert and Notification System

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."

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 the elements required by current FEMA REP guidance. (10 CFR Part 50, Appendix E.IV.D and NUREG-0654, E.5, 6,7)

Extent of Play

Responsible Offsite Response Organizations (ORO) 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.

Offsite Response Organizations (ORO) with route alerting as the primary method of alerting and notifying the public should demonstrate the capability to accomplish the primary route alerting, following the decision to activate the alert and notification system, in a timely manner (will not be subject to specific time requirements) in accordance with the ORO's plan and/or procedures. At least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at some agreed upon location. 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.

Massachusetts Extent of Play

MEMA SEOC: Actions to demonstrate performance of initial notification of the public will be performed up to the point of actual transmission of the Emergency Alert System (EAS) message. The EAS message will be prepared/encoded by MEMA. The State Primary EAS Station of WBZ will be contacted only once and notified that activations of the EAS System will be handled out of the SEOC. Actual activation of the Emergency Alert System will be simulated by SEOC staff.

The MA SEOC will demonstrate the actions necessary to perform the siren activation up to the point of actually sounding the sirens. Siren sounding will be simulated.

Plymouth EOC: Will participate in a discussion²²⁴ with the FEMA Evaluator of the steps required for activation of the voice function of the sirens on Saquish Neck, Gurnet Point, and Clark's Island with the FEMA Evaluator.

Criterion 5.a.2: [RESERVED]

Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E. 6, Appendix 3.B.2.c)

Extent of Play

Offsite Response Organizations (ORO) with FEMA-approved exception areas (identified in the approved Alert and Notification System Design Report) 5-10 miles from the nuclear power plant should demonstrate the capability to accomplish primary alerting and notification of the exception area(s) within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The 45-minute clock will begin when the OROs make the decision to activate the alert and notification system for the first time for a specific emergency situation. The initial message should, at a minimum, include: a statement that an emergency exists at the plant and where to obtain additional information.

For exception area alerting, at least one route needs to be demonstrated and evaluated. The selected route(s) should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at some agreed-upon location.

Backup alert and notification of the public should be completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. Backup route alerting only needs to be demonstrated and evaluated, in accordance with the ORO's plan and/or procedures and the extent of play agreement, if the exercise scenario calls for failure of any portion of the primary system(s), or if any portion of the primary system(s) actually fails to function. If demonstrated, only one route needs to be selected and demonstrated. All alert and notification activities along the route should be simulated (that is, the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at some agreed-upon location.

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.

Massachusetts Extent of Play

This sub-element will not be demonstrated this iteration.

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) 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 that 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 should be available for dealing with rumors. This system will hereafter be known as the public inquiry hotline.

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.c)

Extent of Play

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 ORO 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. The ORO should also be prepared to disclose and explain the Emergency Classification Level (ECL) of the incident. At a minimum, this information must be included in media briefings and/or media releases. 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.

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.

Massachusetts Extent of Play

Joint Information Center: Rumor trends generated as a result of public inquiry calls to the Mass-211 Public Information Line will be included in news briefings by the MEMA PIO.

Simulation Cell personnel will make calls simulating members of the public and media to the Mass-211 Public Information Line. This process will commence after the initial siren activation.

Mass-211 Operations Center: Staff from Mass-211 and the Office of the Secretary of the Commonwealth will demonstrate the ability to handle inquiry calls. Handling at least two rumor trends will be demonstrated.

EPZ Towns: Simulation Cell personnel at the SEOC will make calls to the local EOCs simulating members of the public with inquiries. Each local EOC will demonstrate the ability to properly handle these inquiries.

NOTE: "On the Spot" corrections approved for the fore mentioned sub-elements. That portion of the evaluation element dealing with "timely manner" and emergency information being all-inclusive. Players should have the opportunity to re-demonstrate this criterion in subsequent messages.

Note: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant and the Controller. After an “on the spot” re-training by the state or local organization, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

EVALUATION AREA 6: Support Operation/Facilities

Sub-element 6.a – Monitoring and Decontamination of Evacuees and Emergency Workers and Registration of Evacuees

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the capability to implement radiological monitoring and decontamination of evacuees and emergency workers, while minimizing contamination of the facility, and registration of evacuees at reception centers.

Criterion 6.a.1: The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12; K.5.a)

Extent of Play

Radiological monitoring, decontamination, and registration facilities for evacuees/ emergency workers should be set up and demonstrated as they would be in an actual emergency or as indicated in the extent of play agreement. This would include adequate space for evacuees' vehicles. Expected demonstration should include 1/3 of the monitoring teams/portal monitors required to monitor 20% of the population allocated to the facility within 12 hours. Prior to using monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation.

All instruments should be inspected, inventoried, and operationally checked before each use. Instruments should be calibrated in accordance with the manufacturer's recommendations. Unmodified CDV-700 series instruments and other instruments without a manufacturer's recommendation should be calibrated annually. 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 calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument.

Staff responsible for the radiological monitoring of evacuees should demonstrate the capability to attain and sustain a monitoring productivity rate per hour needed to monitor the 20% emergency planning zone (EPZ) population plus the base within about 12 hours. This monitoring productivity rate per hour is the number of evacuees that can be monitored per hour by the total complement of monitors using an appropriate monitoring procedure. A minimum of

six individuals per monitoring station should be monitored, using equipment and procedures specified in the plan and/or procedures, to allow demonstration of monitoring, decontamination, and registration capabilities. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators in order to determine whether the twelve-hour requirement can be met. Monitoring of emergency workers does not have to meet the twelve-hour requirement. However, appropriate monitoring procedures should be demonstrated for a minimum of two emergency workers.

Decontamination of evacuees/emergency workers may be simulated and conducted by interview. The availability of provisions for separately showering should be demonstrated or explained. The staff should demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs and appropriate means (e.g., partitions, roped-off areas) to separate clean from potentially contaminated areas. Provisions should also exist to separate contaminated and uncontaminated individuals, provide changes of clothing for individuals whose clothing is contaminated, and store contaminated clothing and personal belongings to prevent further contamination of evacuees or facilities. In addition, for any individual found to be contaminated, procedures should be discussed concerning the handling of potential contamination of vehicles and personal belongings.

Monitoring personnel should explain the use of action levels for determining the need for decontamination. They should also explain the procedures for referring evacuees who cannot be adequately decontaminated for assessment and follow up in accordance with the ORO's plans and procedures. Contamination of the individual will be determined by controller inject and not simulated with any low-level radiation source.

The capability to register individuals upon completion of the monitoring and decontamination activities should be demonstrated. The registration activities demonstrated should include the establishment of a registration record for each individual, consisting of the individual's name, address, results of monitoring, and time of decontamination, if any, or as otherwise designated in the plan. Audio recorders, camcorders, or written records are all acceptable means for registration.

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

Massachusetts Extent of Play

Bridgewater Reception Center will be demonstrated out of sequence August 2012.

Sub-element 6.b – Monitoring and Decontamination of Emergency Worker Equipment

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) have the capability to implement radiological monitoring and decontamination of emergency worker equipment, including vehicles.

Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker equipment, including vehicles. (NUREG-0654, K.5.b)

Extent of Play

The monitoring staff should demonstrate the capability to monitor equipment, including vehicles, for contamination in accordance with the Offsite Response Organizations (ORO) plans and procedures. Specific attention should be given to equipment, including vehicles, that was in contact with individuals found to be contaminated. The monitoring staff should demonstrate the capability to make decisions on the need for decontamination of equipment, including vehicles, based on guidance levels and procedures stated in the plan and/or procedures.

The area to be used for monitoring and decontamination should be set up as it would be in an actual emergency, with all route markings, instrumentation, record keeping and contamination control measures in place. Monitoring procedures should be demonstrated for a minimum of one vehicle. It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as radiator grills, bumpers, wheel wells, tires, and door handles should be demonstrated. Interior surfaces of vehicles that were in contact with individuals found to be contaminated should also be checked.

Decontamination capabilities, and provisions for vehicles and equipment that cannot be decontaminated, may be simulated and conducted by interview.

All activities associated with 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.

Massachusetts Extent of Play

This sub-element was successfully demonstrated August 2009.

Sub-element 6.c - Temporary Care of Evacuees

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) demonstrate the capability to establish relocation centers in host areas. Congregate care is normally provided in support of OROs by the American Red Cross (ARC) under existing letters of agreement.

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red

Cross planning guidelines. (Found in MASS CARE - Preparedness Operations, ARC 3031) Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h, J.12)

Extent of Play

Under this criterion, demonstration of congregate care centers may be conducted out of sequence with the exercise scenario. The evaluator should conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with ARC

3031. In this simulation, it is not necessary to set up operations as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of this objective, exercise demonstration expectations should be clearly specified in extent-of-play agreements.

Congregate care staff should also demonstrate the capability to ensure that evacuees have been monitored for contamination, have been decontaminated as appropriate, and have been registered before entering the facility. This capability may be determined through an interview process.

If operations at the center are demonstrated, material that would be difficult or expensive to transport (e.g., cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility (facilities). However, availability of such items should be verified by providing the evaluator a list of sources with locations and estimates of quantities.

All activities associated with 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.

Massachusetts Extent of Play

Congregate care centers will not be activated. Shelter surveys will be provided to FEMA of new and/or revised shelters for review.

Sub-element 6.d - Transportation and Treatment of Contaminated Injured Individuals

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (ORO) should have the capability to transport contaminated injured individuals to medical facilities with the capability to provide medical services.

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2; H.10; K.5.a, b; L.1, 4)

Extent of Play

Monitoring, decontamination, and contamination control efforts will not delay urgent medical care for the victim.

Offsite Response Organizations (ORO) should demonstrate the capability to transport contaminated injured individuals to medical facilities. An ambulance should be used for the response to the victim. However, to avoid taking an ambulance out of service for an extended time, any vehicle (e.g., car, truck, or van) may be utilized to transport the victim to the medical facility. Normal communications between the ambulance/dispatcher and the receiving medical facility should be demonstrated. If a substitute vehicle is used for transport to the medical facility, this communication must occur prior to releasing the ambulance from the drill. This communication would include reporting radiation monitoring results, if available. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information.

Monitoring of the victim may be performed prior to transport, done enroute, or deferred to the medical facility. Prior to using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities should be completed as they would be in an actual emergency. Appropriate contamination control measures should be demonstrated prior to and during transport and at the receiving medical facility.

All instruments should be inspected, inventoried, and operationally checked before each use. Instruments should be calibrated in accordance with the manufacturer's recommendations. Unmodified CDV-700 series instruments and other instruments without a manufacturer's recommendation should be calibrated annually. 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 calibrated frequency can be verified by other means. Additionally, instruments being used to measure activity should have a range of readings sticker affixed to the side of the instrument.

The medical facility should demonstrate the capability to activate and set up a radiological emergency area for treatment. Equipment and supplies should be available for the treatment of contaminated injured individuals.

The medical facility should demonstrate the capability to make decisions on the need for decontamination of the individual, to follow appropriate decontamination procedures, and to maintain records of all survey measurements and samples taken. All procedures for the collection and analysis of samples and the decontamination of the individual should be demonstrated or described to the evaluator.

All activities associated with 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.

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