



Federal Emergency Management Agency

Region I
J.W. McCormack Post Office &
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Boston, MA 02109

Frank J. Congel, Director
Incident Response Operations
U.S. Nuclear Regulatory Commission
Mail Stop T4D18
Washington, D.C. 20555

Dear Mr. Congel:

Enclosed is a copy of the final report for the November 15, 2002, Medical Support MS-1 Drill of the offsite radiological emergency plans for Pilgrim Nuclear Power Station in Plymouth, Massachusetts. This report addresses the evaluation of the plans and preparedness for the Quincy Medical Center and the Fallon Ambulance Service of Quincy, Massachusetts. The final exercise report was prepared by the Federal Emergency Management Agency, Region I staff. Copies of this report will be forwarded to the Commonwealth of Massachusetts, Quincy Medical Center and Pilgrim Nuclear Power Station.

No Deficiencies were identified during the November 15, 2002 drill. There were two Areas Requiring Corrective Action (ARCA) identified. Corrective action has already been completed for one of the ARCAs and the remaining one will be addressed through regularly scheduled training sessions.

Based on the results of the November 15, 2002 drill, the offsite radiological emergency plans for the Quincy Medical Center and the Fallon Ambulance Service of Quincy, Massachusetts, in support of Pilgrim Nuclear Power Station, can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the public in the event of a radiological emergency at the site.

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

Sincerely,

A handwritten signature in dark ink, appearing to read "D. Craig", is written over the typed name.

Daniel A. Craig
Regional Director



COMMONWEALTH OF MASSACHUSETTS

MS-1 DRILL

QUINCY MEDICAL CENTER

QUINCY, MASSACHUSETTS

PILGRIM NUCLEAR POWER STATION

Licensee: *Entergy Nuclear Generation Company*

Exercise Date: *November 15, 2002*

Report Date: *December 16, 2002*

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION 1
JOHN W. McCORMACK POST OFFICE AND COURTHOUSE
BOSTON, MASSACHUSETTS 02109**

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I. EXECUTIVE SUMMARY

On November 15, 2002, a drill was conducted at Quincy Medical Center, Quincy, Massachusetts by the Federal Emergency Management Agency (FEMA) Region I. The purpose of the drill was to assess the capability of the Quincy Medical Center and Fallon Ambulance Service to respond to a radiological emergency at the Pilgrim Nuclear Power Station (PNPS). This drill was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

FEMA wishes to acknowledge the efforts of the many individuals in the Fallon Ambulance Service, the Quincy Medical Center Emergency Room and Support Staffs who participated in this drill.

Protecting the public health and safety is the full-time job of some of the drill participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise. The participants displayed a heightened awareness of the risks from radiological materials that are not handled properly. The Fallon Ambulance Service Emergency Medical Technicians and Quincy Medical Center Staff expressed their confidence in dealing with a radiological situation as a result of following the response plans and procedures.

This report contains the final evaluation of the MS-1 Drill.

II. INTRODUCTION

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

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

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

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

Formal submission of the RERPs for the Pilgrim Nuclear Power Station (PNPS) to FEMA Region I by the State of Massachusetts and involved local jurisdictions occurred on June 16, 1981. Formal approval of the RERP was granted by FEMA on March 3, 1982, under 44 CFR 350.

A MS-1 Drill was conducted on November 15, 2002, by FEMA Region I, to assess the capabilities of the staff of the Fallon Ambulance Service and Quincy Medical Center in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the PNPS. The purpose of this drill report is to present the drill results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

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

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

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;
- "Radiological Emergency Preparedness: Exercise Evaluation Methodology," published in the Federal Register on September 12, 2001, and amended April 25, 2002.

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

2. Quincy Medical Center, Quincy, MA.

The Radiological Emergency Area (REA) staff and two RMTs (One attending to the patient and one working outside the cordoned area) demonstrated their abilities to work as a team to treat a contaminated patient. The RMTs shared the responsibilities of the Radiation Safety Officer. All of the staff showed a sincere concern and care for the patient. There was sufficient medical, administrative, and logistical support to properly care for a contaminated injured person.

a. MET: None

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTIONS:

48-02-6.d.1-A-09

CONDITION: The outside RMT did not adequately demonstrate monitoring techniques using the CDV 700. While monitoring the ambulance crew and ambulance, the outside RMT held the probe further than an inch away and moved faster than a ½ inch per second.

POSSIBLE CAUSE: Not properly trained on the use of the CDV 700.

REFERENCE: NUREG- 0654,F.2, H.10, K.5a.b., L.1, 4.

EFFECT: Hospital or ambulance staff could have been contaminated and not known, thereby spreading contamination to the public.

RECOMMENDATION: Provide additional CDV 700 monitoring training to the RMT.

AREAS REQUIRING CORRECTIVE ACTIONS:

48-02-6.d.1-A-10

CONDITION: The REA staff were experiencing heat stress, with the attending RMT displaying the most affects in the performance of his tasks.

POSSIBLE CAUSE: The full body protective suits are not ventilated.

REFERENCE: NUREG- 0654,F.2, H.10, K.5a.b., L.1, 4.

EFFECT: The reduced efficiency as a result of the heat stress caused by protective suits will delay the decontamination procedure and could cause health issues for the staff. The attending RMT was showing difficulty in maintaining the survey probe at the proper distance and speed during monitoring of the patient.

RECOMMENDATION: Use protective clothing that does not create excessive heat for the REA workers.

CORRECTIVE ACTIONS DEMONSTRATED: Within a week of the drill new protective clothing was delivered to the medical center. The new protective gowns replace the full body protective suits. The gowns are worn over one's clothing and are open in the back. The ventilation of the gowns makes them cooler to wear.

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

APPENDIX 1.

DRILL EVALUATORS

The following is a list of the personnel who evaluated the Medical Services Drill (MS-1 Drill) for the Pilgrim NPS on November 15, 2002.

<u>EVALUATION SITE</u>	<u>CRITERION</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
Fallon Ambulance Service	Criterion 6.d.1	Lauren Record	FEMA Region I
Quincy Medical Center	Criterion 6.d.1	James Gibbons	FEMA Region I

PARTICIPATING ORGANIZATION(s)

The following is a list of the participating organizations in the Medical Services Drill (MS-1 Drill) for the Pilgrim NPS on November 15, 2002.

Fallon Ambulance Service	Ambulance Service, Emergency Medical Technicians
Quincy Medical Center	Radiation Medicine Technicians, REA Doctor and Nurses
Quincy Fire Department	Firemen

APPENDIX 2

EXTENT-OF-PLAY AGREEMENT Quincy Medical Center EVALUATION CRITERIA MS-1 DRILL November 15, 2002

1. PURPOSE

To evaluate the emergency response capabilities of the Pilgrim Nuclear Power Station (PNPS) organization, the Fallon Ambulance Service, and the Quincy Medical Center to respond to a radiological contaminated injured individual. To meet the annual requirement for a Pilgrim NPS Emergency Plan Medical Service (MS-1 Drill) with the Quincy Medical Center.

2. EVALUATION AREA 6: Support Operations/Facilities

Sub-element 6.d. Transportation and treatment of contaminated injured individuals

Criterion 6.d.1: The facility 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-General Transportation

- Demonstrate control of the spread of contamination from individuals who may be contaminated and injured.
- Address priorities of care between control of contamination and the need for prompt transportation to a medical facility for care of an urgent condition.
- Transportation to a medical facility equipped to deal with a contaminated injured individual.
- Communications with the medical facility by the vehicle crew while in route.
- Monitoring of emergency vehicle and determination of the need for decontamination.
- Demonstrate adequacy of plans and procedures for the care and transportation of contaminated or exposed individuals.

Extent-of-play – Specific Transportation

Demonstrate the ability of the Fallon Ambulance Service personnel to respond to a request for assistance and to:

- Don protective clothing as necessary.
- Obtain information on the patient's condition.
- Prepare the patient for transfer to the hospital.
- Prepare the ambulance for receiving a radiological contaminated patient.
- Transfer the patient to the hospital.
- Brief the receiving hospital on the patient's condition via ambulance radio.

Extent-of-play – General Treatment

- Demonstrate the ability to control the spread of contamination from individuals who may be contaminated and injured.
- Demonstrate the setting priorities between the need to address radioactive contamination and the prompt diagnosis and treatment of medical conditions.
- Demonstrate the appropriate decontamination of individuals.

Extent-of-Play – Specific Treatment

Demonstrate the ability of Quincy Medical Center staff to respond in accordance with the Quincy Medical Center MS-1 Hospital Plan:

- Receive communications from the ambulance.
- Set up the REA and establish a radiological controlled area.
- Treat the patient's injuries.
- Decontaminate the patient prior to release from the REA.

Demonstrate the ability of the hospital Radiological Safety Officer to:

- Assist in radiological control at the hospital.
- Collect and maintain control of all contaminated materials for decontamination and release or disposal.
- Perform surveys of the ambulance and ambulance crew prior to release.