



**FEMA**

NOV 26 2003

Mr. James E. Dyer  
Regional Administrator  
U.S. Nuclear Regulatory Commission, Region III  
801 Warrenville Road  
Lisle, Illinois 60532-4351

Dear Mr. Dyer:

Enclosed is a copy of the final report for the October 30, 2003, medical drill of the offsite radiological emergency response plans site-specific to the Duane Arnold Energy Center. The Federal Emergency Management Agency (FEMA) Region VII staff prepared the report. A copy of the final report will be provided to the State of Iowa by the FEMA Region VII staff. There were no Deficiencies and no Areas Requiring Corrective Action (ARCA) identified.

The October 30, 2003, medical drill evaluated the offsite radiological emergency response plans and preparedness for the State of Iowa and local jurisdictions, site-specific to Duane Arnold Energy Center. Based on the results of this drill, the aforementioned plans can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to provide transport and treatment of contaminated, injured, or exposed individuals.

Should you have any questions, please contact Mr. Ronald L. McCabe, RAC Chairman at (816) 283-7007 email [Ron.McCabe@dhs.gov](mailto:Ron.McCabe@dhs.gov).

Sincerely,

Richard Hainje  
Regional Director

Enclosure

cc: Vanessa Quinn, ONP-TH-RP (w/enclosure)  
Ken Wierman, ONP-TH-RP (w/enclosure)  
Roland Lickus, NRC III (w/enclosure)  
Eric Weiss, NRC-HQ (w/enclosure)



# FEMA

## Medical Drill Report Duane Arnold Energy Center

Licensee: Nuclear Management Corporation  
Drill Date: October 30, 2003  
Report Date: November 26, 2003

FEDERAL EMERGENCY MANAGEMENT AGENCY  
REGION VII  
2323 Grand Boulevard, Suite 900  
Kansas City, Missouri 64108

RICHARD HAINJE, REGIONAL DIRECTOR

# Table of Contents

I. Executive Summary.....	1
II. Drill Evaluation and Results.....	2
1. State of Iowa .....	3
1.1 Area Ambulance Service.....	3
1.2 University of Iowa Hospital and Clinics .....	3

## **I. Executive Summary**

On October 30, 2003, the Federal Emergency Management Agency (FEMA), Region VII, conducted a drill in the plume exposure pathway emergency-planning zone (EPZ) around the Duane Arnold Energy Center. The purpose of the medical drill was to assess the ability of offsite agencies in responding to a radiological emergency involving a simulated injury to a member of the public with radioactive contamination. The ambulance crew responded to the scene, monitored the victim, contained contamination and transported the victim to the medical facility. The medical facility provided both medical and decontamination treatment to the victim. This medical drill was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans and procedures. The evaluators for this drill were Jane Young from DHS/FEMA/REP and Commander Joan Harding, DHS/FEMA/NDMS and Captain James Imholte, DHS/FEMA/NDMS.

The previous medical drill at this site was conducted on October 10, 2001.

FEMA wishes to acknowledge the efforts of the Area Ambulance Service and the University of Iowa Hospital and Clinics who participated in this medical drill. The University of Iowa Hospital and Clinics is the back up hospital for both Duane Arnold Energy Center and Quad Cities Nuclear Power Station. Therefore, credit for this drill will be given to both sites.

For this drill 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, criteria, September 12, 2001, and April 25, 2002.

The following Evaluation Criterion, which are part of the 6 Evaluation Areas within the Exercise Evaluation Methodology were demonstrated during this drill.

- 1.e.1. – Equipment and Supplies to Support Operations.
- 3.a.1. – Implementation of Emergency Worker Exposure Control
- 3.b.1. – Implementation of KI Decision
- 6.d.1. – Transportation and Treatment of Contaminated Injured Individuals

The offsite agencies demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Deficiencies or Areas Requiring Corrective Action identified during this drill.

## II. Drill Evaluation and Results

Contained in this section are the results of the evaluation of the offsite agencies that participated in the October 30, 2003, medical drill. The purpose of this drill was to test the offsite emergency response capabilities involving a simulated medical injury to a member of the public with radioactive contamination in the area surrounding the Duane Arnold Energy Center.

This section provides information on the evaluation of each participating offsite agency, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to criteria demonstration status.

**Met** - Listing of the demonstrated drill criteria under which no Deficiencies or ARCAs were assessed during this medical drill, and under which no ARCAs assessed during prior medical drills remain unresolved.

**Deficiency** - Listing of the demonstrated drill criteria under which one or more Deficiency(ies) were assessed during this medical drill.

**Area Requiring Corrective Actions (ARCA)** - Listing of the demonstrated drill criteria under which one or more ARCAs were assessed during the current medical drill. Included is a description of ARCAs assessed during this drill and the recommended corrective action to be demonstrated before or during the next biennial exercise or medical drill.

**Not Demonstrated** - Listing of the drill criteria that were not demonstrated as scheduled during this medical drill and the reason they were not demonstrated.

**Prior Issues - Resolved** - Descriptions of ARCAs assessed during previous exercises or drills that were resolved in this medical drill and the corrective actions demonstrated.

**Prior Issues - Unresolved** - Descriptions of ARCAs assessed during prior exercises or drills that were not resolved in this medical drill.

The following are definitions of the two types of exercise/drill issues that are discussed in this report.

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

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

## 1. State of Iowa

**1.1 Area Ambulance Service.** The ambulance service is based at Mercy Medical Center, which is located in Cedar Rapids, Iowa. The ambulance crew was conscientious in treating the medical condition of the victim, maintaining good contamination control, and was very effective in transmitting information to the hospital during victim transport. They are commended for their teamwork and professionalism. A recommendation is to include both the fire and police responders during the next medical drill. These individuals would also respond to the accident/emergency scene.

- a. **MET:** 1.e.1; 3.a.1; 3.b.1; 6.d.1
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ISSUES - RESOLVED:** None
- f. **PRIOR ISSUES - UNRESOLVED:** None

**1.2 University of Iowa Hospital and Clinics.** The University of Iowa Hospital and Clinics is located on the campus of the University of Iowa, which is in Iowa City, Iowa. The hospital has a new specialized emergency room area for the treatment of radiological, hazardous materials, chemical and biological potentially contaminated patients. The University of Iowa Hospital and Clinics personnel, from security and housekeeping to nurses, medical doctors, and other staff, worked together as a professional team. All departments involved were efficient and well trained and demonstrated excellent patient awareness, contamination control, and decontamination techniques. There are three recommendations for the hospital staff. The first recommendation is to stress the importance of "clean" versus "dirty" room awareness.

We also recommend that baseline labs be considered as soon as possible when the patient has open contaminated wounds and/or is in a plume where they may have inhaled contamination. Finally, the initial history of a conscious victim should include asking about recent nuclear medicine exams.

- a. **MET:** 1.e.1; 3.a.1; 6.d.1
- b. **DEFICIENCY:** None
- c. **AREA REQUIRING CORRECTIVE ACTION:** None
- d. **NOT DEMONSTRATED:** None
- e. **PRIOR ISSUES - RESOLVED:** None
- f. **PRIOR ISSUES - UNRESOLVED:** None