U.S. Department of Homeland Security Region VII 9221 Ward Parkway, Suite 300 Kansas City, MO 64114-3372



JUL 0 3 2013

Mr. Charles Castro Regional Administrator U.S. Nuclear Regulatory Commission, Region III 2443 Warrenville Road, Suite 210 Lisle, Illinois 60532-4351

Dear Mr. Castro:

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Enclosed is a copy of the Final After Action Report for the May 23, 2013, medical service drill of the offsite radiological emergency response plans site-specific to the Duane Arnold Energy Center. The State of Iowa, Cedar Rapids Area Ambulance Service, Center Point Ambulance and University of Iowa Hospital all participated during this medical drill. The report was prepared by the Federal Emergency Management Agency (FEMA) Region VII staff. Copies of the final report will be provided to the State of Iowa.

There were no Deficiencies or Areas Requiring Corrective Actions (ARCAs) identified during the medical drill. Additionally, no planning issues or areas recommended for improvement were identified.

Based on the results of this medical drill, the offsite radiological emergency response plans and preparedness for the State of Iowa and the affected local jurisdictions, site-specific to the Duane Arnold Energy Center, can be implemented and are adequate to provide reasonable assurance that appropriate measures can be taken offsite to protect the health and safety of the public in the event of a radiological emergency at the site. Therefore, the Title 44 CFR, Part 350, approval of the offsite radiological emergency response plans and preparedness for the State of Iowa, site-specific to the Duane Arnold Energy Center, granted on November 1, 1990, will remain in effect.

If you have questions or concerns regarding the report, please contact Mr. Jeff Clark at (816) 283-7946.

Sincerely, Beth Freeman

Regional Administrator

Enclosure

cc: Vanessa Quinn, HQ REP w/o enclosure Allan Barker, NRC Region III w/o enclosure NRC HQ, Document Control Desk w/enclosure NRC Region III, RIII FEMADistribution@nrc.gov

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Duane Arnold Energy Center

After Action Report/ Improvement Plan

Drill Date - May 23, 2013 Radiological Emergency Preparedness (REP) Program



Published

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Duane Arnold Energy Center After Action Report/Improvement Plan

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EXECUTIVE SUMMARY

On May 23, 2013, the Federal Emergency Management Agency (FEMA), Region VII, conducted an out-of-sequence Medical Service (MS-1) drill involving Cedar Rapids Area Ambulance Service, Center Point Ambulance, and the University of Iowa Hospital. The purpose of the drill was to assess the level of state and local preparedness in responding to a radiological emergency involving an accident with a contaminated, injured, individual. The drill was held in accordance with FEMA's policies and guidance, and state and local emergency response plans and procedures.

The previous drills at these sites were conducted on: Cedar Rapids Area Ambulance Service, April 14, 2011 Center Point Ambulance, April 14, 2011 University of Iowa Hospital, April 14, 2011

FEMA wishes to acknowledge the efforts of the individuals who participated in this drill. The efforts of the utility should also be commended for their work on training and drill preparation.

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. A special thank you is once again extended to those wonderful volunteers. Cooperation and teamwork of all the participants were evident during this exercise.

The evaluated organizations demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. No Areas Requiring Corrective Action (ARCAs) or Deficiencies were identified as a result of these drills. There were no previous ARCAs to be corrected during this drill.

SECTION 1: EXERCISE OVERVIEW 1.1 Exercise Details

Exercise Name

Duane Arnold Energy Center

Type of Exercise Drill

Exercise Date

May 23, 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 Duane Arnold Energy Center drill:

State Jurisdictions University of Iowa Hospital Iowa Homeland Security & Emergency Management Support Jurisdictions Area Ambulance Center Point Ambulance Service Private Organizations NextEra Energy - Duane Arnold

SECTION 2: EXERCISE DESIGN SUMMARY 2.1 Exercise Purpose and Design

This simulated radiological medical emergency drill was conducted in order to exercise the emergency medical response where radioactive material was responsible for the contamination of a person that was injured.

This drill provided an opportunity to assess the ability of Cedar Rapids Area Ambulance and Center Point Ambulance personnel to respond and care for a patient who was injured and contaminated with radioactive material. In addition, the drill allowed the demonstration of procedures for transporting contaminated, injured, individuals to the appropriate medical facility. Upon arrival of the patient, the University of Iowa Hospital staff demonstrated the proper care of the contaminated patient, to include contamination control and decontamination.

The conduct and evaluation of this drill provided additional training for emergency medical response personnel and further enhanced the local emergency response capability of the community surrounding the Duane Arnold Energy Center.

2.2 Exercise Objectives, Capabilities and Activities

Duane Arnold Energy Center Emergency Preparedness Exercises and Drills are conducted to test and provide the opportunity to evaluate Emergency Plans, associated Implementing Procedures, facilities, and equipment. This Drill tested the DAEC emergency response organization's ability to assess and respond to emergency conditions and coordinate efforts with other agencies for protection of the health and safety of the public.

The scenario depicted a simulated event that resulted in conditions of sufficient magnitude to warrant mobilization of local agencies to respond to the simulated emergency. Whenever practical, the Drill incorporated provisions for "Free Play" on the part of the participants.

The Duane Arnold Energy Center (DAEC), Emergency Preparedness Exercise & Drill Program objectives are based on the Federal requirements delineated in 44 CFR 350, and State of Iowa, Benton County, and Linn County Radiological Emergency Preparedness plans. A summary of the specific areas to be evaluated for all the participating organizations are listed in Table 3.1.

2.3 Scenario Summary

A Duane Arnold worker decoming the flat bed trailer after the HIC transfer lost their balance and slipped on the trailer, falling to the bed and then from the trailer. Worker has an injury to his cheek and hip. Felt a painful "pop" in right hip. The worker is wearing scrubs, booties and gloves.

AS THE SCENARIO BEGINS:

EMS response has been called to respond to the incident at the DAEC. The Health Physics personnel have not removed potentially contaminated clothing, but wrapped the patient to minimize transfer of contamination.

The expectation is that the Ambulance Crew assesses and treats the patient, keeping in mind that he has been radioactively contaminated. Once the patient is treated, packaged, placed into the ambulance and the hospital notified of the incoming patient information – this portion of the Evaluation will stop and a critique will be held on actions of the ambulance crew up to this point. The Evaluators will then give their critique on this portion of the scenario.

The patient will then be taken to UIHC to begin the hospital portion of the Evaluation. The patient, in the ambulance, will be driven into the Ambulance Bay of UIHC. The expectation is that the staff will receive patient turnover from the ambulance crew, assess his status and proceed with treatment knowing that he has been radioactively contaminated. Once the simulated wounds of the patient have been treated and he has been decontaminated, a clean-cart-transfer will be demonstrated and the patient will be taken out of the decontamination room. The UIHC staff will then demonstrate the proper monitoring and clean-up practices for a radiological incident.

That will end this portion of the Evaluation and a critique will be held to on the actions of the UIHC staff. The Evaluators will then give their critique on this portion of the scenario.

SECTION 3: ANALYSIS OF CAPABILITIES 3.1 Drill Evaluation and Results

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the out-of-sequence Medical Service (MS-1) drill on May 23, 2013, to test the offsite emergency response capabilities of local organizations in support of the Duane Arnold Energy Center.

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

Each functional entity was evaluated on the basis of its demonstration of criteria delineated in REP Manual April 2012 version.

3.2 Summary Results of Drill Evaluation

The matrix presented in Table 3.1 indicates the status of all exercise criteria that were scheduled for demonstration during this exercise by all participating and functional entities. Exercise criteria are listed by number and the demonstration status of those criteria is indicated by the use of the following letters:

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

D - Deficiency assessed

A - Area Requiring Corrective Action (ARCA) assessed, or unresolved ARCA(s) from prior exercises

N - Not Demonstrated

Unclassified Radiological Emergency Preparedness Program (REP)

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Table 3.1 - Summary of Drill Evaluation				
DATE: 2013-05-23 SITE: Duane Arnold Energy Center, IA M: Met, A: ARCA, D: Deficiency, P: Plan Issue, N: Not Demonstrated		Univ. of IA Hospital	Cedar Rapids Amb.	Center Point Amb.
Emergency Operations Management				
Mobilization	1a1			
Facilities	1b1			
Direction & Control	1c1			
Communications Equipment	1d1			
Equipment and Supplies	1e1	Μ	Μ	Μ
Protective Action Decision Making			- 6	
EW Exp. Control Decisions	2a1			
PARs	2b1			
PADs	2b2			
PADs for Disabled/Functional Needs	2c1			
Ingestion PADs	2d1			
RRR Decisions	2e1			
Protective Action Implementation				
EW Exp. Control Implementation	3a1	M	М	Μ
KI Public/Institutionalized	3b1			
PAD Imp. Disabled/Functional Needs	3c1			
PAD Imp. Schools	3c2			
TACP Establishment	3d1			
Impediments to Evacuation	3d2			
Implementation of Ingestion PADs	3e1			
Ingestion Strategies and Information	3e2			
Imp. of RRR Decisions	3f1			
Field Measurement and Analysis				
RESERVED	4a1			
Field Team Management	4a2			
Field Team Operations	4a3			
Field Team Sampling	4b1			
Laboratory Operations	4c1			
Emergency Notification and Public Info			17) 1	
Initial Alert & Notification	5a1			
RESERVED	5a2			
Backup Alert & Notification	5a3			
Exception Area Alerting	5a4			
Subsequent Public Information	5b1			
Support Operations/Facilities			7	
Reception Center Operations	6a1			
EW Monitoring & Decon	6b1			
Congregate Care	6c1			
Contaminated Injured Transport & Care	6d1	Μ	Μ	М

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3.3 Criteria Evaluation Summaries

3.3.1 Support Jurisdictions

3.3.1.1 University of Iowa Hospital

University of Iowa Hospital utilized a "negative pressure" Radiation Injury Treatment Room which was well equipped to treat radiological contaminated patients. Staff treating patient worked flawlessly together and demonstrated excellent contamination control and decontamination procedures. Staff surveying the patient demonstrated excellent monitoring techniques.

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

- a. MET: 1.e.1, 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

3.3.1.2 Cedar Rapids Area Ambulance Service

Cedar Rapids Area Ambulance Service demonstrated excellent teamwork during this drill. Crew was very conscious of cross contamination and patient care. All survey equipment was wrapped and monitoring was done adequately. All communications to hospital, while in route, with patient information was concise and correct.

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

- a. MET: 1.e.1, 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

3.3.1.3 Center Point Ambulance

Center Point Ambulance displayed excellent teamwork and radiation knowledge. Ambulance crew were aware of cross contamination and patient was monitored and wrapped correctly. One ambulance crew read directly from checklist to make sure all procedures were followed correctly.

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

- a. MET: 1.e.1, 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

Based on the results of this Drill, the offsite radiological emergency response plans and preparedness for the State of Iowa and the affected local jurisdictions are deemed adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public in the event of a radiological emergency. Therefore, 44 CFR Part350 approval of the offsite radiological emergency response plans and preparedness for the State of Iowa site-specific to the Duane Arnold Energy Center will remain in effect.

APPENDIX A: DRILL EVALUATORS AND TEAM LEADERS

DATE: 2013-05-23, SITE: Duane Arnold Energy Center, IA

LOCATION	EVALUATOR	AGENCY
University of Iowa Hospital	*Jeff Clark	FEMA RVII
Cedar Rapids Area Ambulance Service	*Rex Jennings	FEMA RVII
Center Point Ambulance	*Rex Jennings	FEMA RVII
* Team Leader		

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