



FEMA

October 30, 2007

Mr. James Caldwell
Regional Administrator
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Suite 210
Lisle, Illinois Arlington, Texas 76011-4005

Dear Mr. Caldwell:

Enclosed is a copy of the final report for the September 28, 2007 medical service drill of the offsite radiological emergency response plans site-specific to the Quad Cities Nuclear Power Station. The state of Iowa and the county of Clinton participated during the 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 and no Areas Requiring Corrective Action (ARCAs) identified. Based on the results of this drill, the offsite radiological emergency response plans and preparedness for the state of Iowa and the affected local jurisdiction, site-specific to the Quad Cities Nuclear Power Station, 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 Quad Cities Nuclear Power Station, granted on May 20, 1987, will remain in effect.

If you have questions or concerns regarding the report, please contact Mr. Joe Schulte at (816) 283-7016.

Sincerely,

A handwritten signature in black ink that reads "Ronald L. McCabe".

Ronald L. McCabe, RAC Chairman
Chief, Radiological Emergency Preparedness
Branch

Enclosure

cc: Vanessa Quinn & Ken Wierman, Hq REP w/o enclosure
Roland Lickus, NRC III w/o enclosure
Anthony McMurtray, NRC HDQ w/enclosure

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Quad Cities Nuclear Power Station

Drill Report - 2007-09-28

Final Report - Radiological Emergency

Preparedness (REP) Program

2007-10-30



FEMA





FEMA

Drill Report

Quad Cities Nuclear Power Station

Drill Date: 2007-09-28

Report Date: 2007-10-30

U.S. DEPARTMENT OF HOMELAND SECURITY

Federal Emergency Management Agency

REP Program

9221 Ward Parkway, Suite 300

Kansas City, MO 64114

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1. Executive Summary

On September 28, 2007, the Federal Emergency Management Agency (FEMA), Region VII, conducted a medical services drill in the plume emergency-planning zone (EPZ) around the Quad Cities Nuclear Power Station. The purpose of the drill was to assess the level of State and local preparedness in responding to a radiological emergency. These drills were held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans and procedures. The previous medical service drill at this site was conducted on September 12, 2006.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this drill. In the State of Iowa, the Risk County of Clinton participated, along with the Genesis Medical Center - DeWitt and the DeWitt Ambulance Services. 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 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. A special thank you is once again extended to those wonderful volunteers. Cooperation and teamwork of all the participants were evident during this drill.

The State and local 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 this drill. There were no Previous ARCAs to be corrected during this drill.*

2. Introduction

On December 7, 1979, the President directed FEMA to assume 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 governments' 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 radiological emergency response plans (RERP) and procedures developed by State and local governments.
- * Determining whether such plans and procedures can be implemented on the basis of 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 (Federal Register, Vol. 58, No. 176, September 14, 1993).
- * Coordinating the activities of the following 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. Food and Drug Administration
- U.S. Public Health Service
- U.S. Department of Transportation
- U.S. Department of Agriculture
- U.S. Department of the Interior

Representatives of these agencies serve on the FEMA Region VII Regional Assistance

Committee (RAC), which is chaired by FEMA.

A REP medical service drill was conducted on September 28, 2007, by FEMA Region VII to assess the capabilities of the States and local offsite emergency preparedness organizations in implementing their RERPs and procedures to protect the public during a radiological emergency involving the Quad Cities Nuclear Power Station. The purpose of this drill report is to present the exercise results and findings on the performance of the offsite response organizations (OROs) 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 VII 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 as published in the Federal Register September 12, 2001 and April 25, 2002.

Section III of this report, entitled "Drill Overview," presents basic information and data relevant to the exercise.

Section IV of this report, entitled "Drill Evaluation and Results," presents basic information on the demonstration of applicable exercise criteria at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' Schedule of Corrective Actions for each identified exercise issue and (2) descriptions of ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

3. Drill Overview

Contained in this section are data and basic information relevant to the September 28, 2007, medical services drill to test the offsite emergency response capabilities in the area surrounding the Quad Cities Nuclear Power Station.

3.1. EPZ Description

The Quad Cities Nuclear Power Station (QCNPS), Units 1 and 2, is located in Cordova Township, Rock Island County, Illinois, ten miles northeast of the city of LeClaire, Iowa, and ten miles southwest of the city of Clinton, Iowa. The plant is on the eastern bank of the Mississippi River opposite the mouth of the Wapsipinicon River. The site is at Mississippi River Mile Marker Number 507 above the mouth of the Ohio River. The topography of the site and its immediate environs is low and relatively flat, with a mean elevation of approximately 605 feet. The ground surface drops off abruptly, approximately 30 feet down to the bank of the river.

The Mississippi River bisects the Emergency Planning Zone (EPZ) from north to south, passing adjacent to the plant. The river is used for commercial waterborne traffic and is a prime area for recreational boating and fishing. In addition to the river, U.S. Highway 30 passes through the northern portion of the EPZ passing within 6 miles of the plant. U.S. Highway 67, which parallels the Mississippi River, bisects the entire EPZ in a north-south direction passing within 2 ½ miles of the plant and State Highway 136 passes through the northern portion of the EPZ.

The EPZ for the Quad Cities Nuclear Power Station consists of an irregular shaped circle with the power station as the center point. It extends 10 to 13 miles outward, including all of Clinton and LeClaire. The EPZ encompasses the Mississippi River floodplain, including the cities and villages built on the floodplain river bluffs, and gently rolling hills further away from the river. The floodplain on the Iowa side of the Mississippi River is relatively narrow and, thus has constrained urban and industrial development in this area.

The 10-mile EPZ total summer population (permanent residents and transients) based on the 2000 census, is 61,327 of which 53,965 reside within Clinton and Scott Counties in Iowa. The remainder of the EPZ is in Rock Island and Whiteside Counties in Illinois with a population in the summer of 7,362.

Both Clinton and Scott Counties are typical agricultural areas with the majority of land used for cash grain production and livestock. Communities within Scott County that are located in the 10-mile EPZ are McCausland, Princeton, and Le Claire. Communities within Clinton County that are located in the 10-mile EPZ are Low Moor, Folletts, Camanche, Malone, Elvira, and Clinton. Industrial and professional activities are principally located in the Clinton and Camanche metropolitan areas. There are 24 major employers in the Iowa EPZ. The Iowa 10-mile EPZ is divided into 12 pre-identified subareas, which are defined for the public in terms of clearly recognizable landmark descriptions.

Major parks and recreational areas located in the EPZ include the Upper Mississippi River National Wildlife/Fish Refuge, Princeton State Wildlife Management Area, Fairbanks Fishing Hole, Rock Creek Park, Riverview Park, Riverview Stadium, and passenger riverboats.

Area transportation includes the Mississippi River, Clinton County airport, railroads, and major highways.

3.2. Drill Participants

Agencies and organizations of the following jurisdictions participated in the Quad Cities Nuclear Power Station drill:

Support Jurisdictions

DeWitt Ambulance Services

Genesis Medical Center - De Witt

4. Drill Evaluation and Results

Contained in this section are the results and findings of the evaluation of participants in the September 28, 2007, medical service drill to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Quad Cities Nuclear Power Station.

Each functional entity was evaluated on the basis of its demonstration of criteria contained in exercise evaluation areas delineated in Emergency Preparedness: Exercise Evaluation Methodology as printed in the Federal Register September 12, 2001 and April 25, 2002.

4.1. Summary Results of Drill Evaluation

The matrix presented in Table 2, on the following pages, presents the status of all exercise criteria, which were scheduled for demonstration during this drill, at all participating jurisdictions 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 (Reason explained in subsection B)

Table 1 - Summary of Drill Evaluation

DATE: 2007-09-28 SITE: Quad Cities Nuclear Power Station, IL A: ARCA, D: Deficiency, M: Met		Genesis Medical Center - DeWitt	DeWitt Ambulance Service
Emergency Operations Management			
Mobilization	1a1		
Facilities	1b1		
Direction and Control	1c1		
Communications Equipment	1d1		
Equip & Supplies to support operations	1e1	M	M
Protective Action Decision Making			
Emergency Worker Exposure Control	2a1		
Radiological Assessment and PARs	2b1		
Decisions for the Plume Phase -PADs	2b2		
PADs for protection of special populations	2c1		
Rad Assessment and Decision making for the Ingestion Exposure Pathway	2d1		
Rad Assessment and Decision making concerning Relocation, Reentry, and Return	2e1		
Protective Action Implementation			
Implementation of emergency worker exposure control	3a1	M	M
Implementation of KI decision	3b1		M
Implementation of protective actions for special populations - EOCs	3c1		
Implementation of protective actions for Schools	3c2		
Implementation of traffic and access control	3d1		
Impediments to evacuation are identified and resolved	3d2		
Implementation of ingestion pathway decisions - availability/use of info	3e1		
Materials for Ingestion Pathway PADs are available	3e2		
Implementation of relocation, re-entry, and return decisions.	3f1		
Field Measurement and Analysis			
Adequate Equipment for Plume Phase Field Measurements	4a1		
Field Teams obtain sufficient information	4a2		
Field Teams Manage Sample Collection Appropriately	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		
Activation of the prompt alert and notification system - Fast Breaker	5a2		
Activation of the prompt alert and notification system - Exception areas	5a3		
Emergency information and instructions for the public and the media	5b1		
Support Operations/Facilities			
Mon / decon of evacuees and emergency workers, and registration of evacuees	6a1		
Mon / decon of emergency worker equipment	6b1		
Temporary care of evacuees	6c1		
Transportation and treatment of contaminated injured individuals	6d1	M	M

4.2. Status of Jurisdictions Evaluated

4.2.1. Support Jurisdictions

4.2.1.1. Genesis Medical Center - DeWitt

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

4.2.1.2. DeWitt Ambulance Service

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

APPENDIX 1

DRILL EVALUATORS AND TEAM LEADERS

DATE: 2007-09-28, SITE: Quad Cities Nuclear Power Station, IL

LOCATION	EVALUATOR	AGENCY
Genesis Medical Center - DeWitt	Ronald Biernacki	ICF
DeWitt Ambulance Service	James Foster	ICF
* Team Leader		