



Comanche Peak Nuclear Power Plant Medical Services Drill

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Table of Contents

Executive Summary.....	4
Section 1: Exercise Overview	5
Section 2: Analysis of Capabilities	6
2.1 Summary Results of Assessment.....	6
2.2 Results of Exercise Evaluation	8
Appendix A: Participating Organizations.....	9
Participating Organizations	9
Appendix B: Planning and Evaluation Team.....	10
Planning Team	10
Evaluation Team	10
Appendix C: Acronyms and Abbreviations	11
Appendix D: Extent of Play Agreement and Scenario.....	12

Executive Summary

On August 23, 2023, the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), Region 6, evaluated Texas Health Harris Methodist Hospital Cleburne and Somervell County Fire Department during a medical services drill for the Comanche Peak Nuclear Power Plant, located near Glen Rose, Texas.

During the medical services drill, FEMA assessed the ability of state and local officials to implement plans and procedures to protect the public in the event of a radiological incident. This drill is part of the FEMA Radiological Emergency Preparedness Program. This program ensures that adequate capabilities exist to prevent, protect against, mitigate the effects of, respond to, and recover from incidents involving commercial nuclear power plants. This drill implemented the revised NUREG 0654/FEMA-REP-1, Rev. 2 document and the 2019 Radiological Emergency Preparedness Program Manual (RPM).

This report contains the final written evaluation of the drill. The state and local organizations demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were no Level 1 Findings, Level 2 Findings, or Plan Issues identified.

Section 1: Exercise Overview

Name	2023 Comanche Peak Nuclear Power Plant Medical Services Drill
Dates	August 23, 2023
Purpose	The purpose of the medical services drill was to assess the level of preparedness of offsite response organizations to respond to a simulated radiological emergency.
Mission Area(s)	Protection Response
Core Capabilities	Operational Coordination Environmental Response/Health and Safety Public health, Healthcare Emergency Medical Services Planning
Objectives	Exposure Control Operate
Threat or Hazard	Release of radiological materials from a commercial nuclear power plant.
Scenario	This drill required coordinated decisions of offsite response organizations (OROs) to address a radiological hazard from an emergency at Comanche Peak Nuclear Power Plant (CPNPP). The OROs demonstrated the implementation of protective actions to preserve health and safety of the public due to a potential or actual offsite release of radioactive materials from CPNPP.
Participating Organizations	A complete list of participating agencies and organizations is attached in Appendix A.

Section 2: Analysis of Capabilities

2.1 Summary Results of Assessment

Table 1 below lists the assessment activity objectives, capability targets, selected core capabilities, and status of each capability target evaluated.

Each jurisdiction and functional entity were evaluated based on the demonstration of core capabilities and capability targets. The demonstration status of the capability targets is indicated using the following terms:

- **Met (M):** The jurisdiction or functional entity performed all activities under the objective/capability target to the level required per the work plan and/or the extent of play agreement, with no Level 1 or Level 2 Findings evaluated under that objective/capability target during the current activity and no unresolved prior Level 2 Finding(s).
- **Level 1 Finding (L1):** An observed or identified inadequacy of organizational performance during an assessment activity that could cause a determination 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.
- **Level 2 Finding (L2):** An observed or identified inadequacy of organizational performance during an assessment activity that is not considered, by itself, to adversely impact public health and safety.
- **Plan Issue (P):** An observed or identified inadequacy in the OROs emergency plan/implementing procedures, rather than in that of the OROs performance.
- **Not Demonstrated (N):** For a justifiable reason, the jurisdiction or functional entity did not perform assessment activities under the objective/capability target as specified in the extent of play agreement.
- **Not Applicable (N/A):** The objective/capability target does not apply to the jurisdiction.

Table 1. Summary Results of Capability Targets

Venue	Capability Target	Core Capabilities	Status
Objective 2: Exposure Control			
Texas Health Harris Methodist Hospital Cleburne	2.2	Operational Coordination; Environmental Response/Health and Safety; Planning	M
Somervell County Fire Department	2.2	Operational Coordination; Environmental Response/Health and Safety; Planning	M
Objective 5: Operate			
Texas Health Harris Methodist Hospital Cleburne	5.3	Environmental Response/Health and Safety; Public health, Healthcare; Emergency Medical Services; Planning	M
Somervell County Fire Department	5.3	Environmental Response/Health and Safety; Public health, Healthcare; Emergency Medical Services; Planning	M

2.2 Results of Exercise Evaluation

Texas Health Harris Methodist Hospital Cleburne

Objective 2: Exposure Control

Capability Target 2.2: Emergency Worker Exposure Control Management

Objective 5: Operate

Capability Target 5.3: Transportation and Treatment of Contaminated, Injured Individuals

In summary, the status of DHS/FEMA capability targets for this location are as follows:

- a. MET: 2.2, 5.3
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

Somervell County Fire Department

Objective 2: Exposure Control

Capability Target 2.2: Emergency Worker Exposure Control Management

Objective 5: Operate

Capability Target 5.3: Transportation and Treatment of Contaminated, Injured Individuals

In summary, the status of DHS/FEMA capability targets for this location are as follows:

- a. MET: 2.2, 5.3
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES - RESOLVED: None
- g. PRIOR ISSUES - UNRESOLVED: None

Appendix A: Participating Organizations

Participating Organizations

State Organizations
Texas Department of State Health Services
Risk Jurisdictions
Somervell County Fire Department
Private Organizations
Texas Health Harris Methodist Hospital Cleburne
Comanche Peak Nuclear Power Plant

Appendix B: Planning and Evaluation Team

Planning Team

Planners		
Title/Position	Name	Agency
Regional Assistance Committee Chair	Oscar Martinez	FEMA Region 6
Federal Planning Team Lead Senior Site Specialist	Timothy Pflieger	FEMA Region 6
State Planning Team Lead Emergency Planner	Robin Phillips	DSHS
Licensee Planning Team Lead Emergency Preparedness	Jay Webster	CPNPP

Evaluation Team

Team Leaders and Evaluators		
Venue/Location	Evaluation Team/Team Lead	Agency
Texas Health Harris Methodist Hospital Cleburne	Melisa Ogrodnik	FEMA Region 6
	Timothy Pflieger *	FEMA Region 6
Somervell County Fire Department	Misty Chance	FEMA Region 6
* Team Leader		

Appendix C: Acronyms and Abbreviations

Acronym	Description
BZ	Buffer Zone
CPNPP	Comanche Peak Nuclear Power Plant
CPM	Counts Per Minute
DHS	Department of Homeland Security
DLR	Dosimeter of Legal Record
DRD	Direct Reading Dosimeter
DSHS	Department of State Health Services
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
KI	Potassium Iodide
ORO	Offsite Response Organizations
PPE	Personal Protective Equipment
PRD	Permanent Record Dosimeter
REA	Radiological Emergency Area
RPM	Radiological Emergency Preparedness Program Manual

Appendix D: Extent of Play Agreement and Scenario

OBJECTIVES, CAPABILITY TARGETS, AND EXTENT OF PLAY

2. EXPOSURE CONTROL

2.2. Emergency Worker Exposure Control Management

- ❖ Capability Targets: Emergency workers manage radiological exposure and dose in accordance with the plans/procedures. (NUREG-0654/FEMA-REP-1, Rev. 2: C.2.c, H.11, H.11.b, K.2.b, K.3, K.3.a, M.1.b, O.1)
- ❖ Locations: Texas Health Cleburne, Somervell County Fire Department
- ❖ Extent of Play:
 - Dosimeters and a simulated OSL/TLD will be issued to participating ambulance crew members.
 - Dosimeters and a simulated OSL/TLD will be issued to participating Emergency Room members by the Buffer Zone Nurse.
 - **Correction-on-the-spot** will be considered during the emergency worker radiological briefing information and dosimetry use at the discretion of and concurrence between the evaluator and the controller. Caution should be exercised to ensure that exercise play is not interrupted.
- ❖ Core Capabilities: Operational Coordination; Environmental Response/Health and Safety; Planning

5. OPERATE

5.3. Transportation and Treatment of Contaminated, Injured Individuals

- ❖ Capability Targets: Transport contaminated, injured individuals to medical facilities with the capability to monitor and decontaminate. (NUREG-0654/FEMA-REP-1, Rev. 2: C.2.d, F.2, H.11, H.12, J.2, K.3, K.4, L.1, L.3, L.4, O.1)
- ❖ Locations: Texas Health Cleburne, Somervell County Fire Department
- ❖ Extent of Play:
 - The ambulance service will pick up the victim at a pre-staged location and proceed to Texas Health Cleburne.
 - In the REA at THC removal of victim's clothing will be simulated.
 - In the REA at THC decontamination will be performed on and around wound areas that will be unclothed, and other areas if necessary. Intrusive bioassay samples will be simulated. No actual surgical procedures, X-ray, drawing of blood samples, etc. will be conducted.
- ❖ Core Capabilities: Environmental Response/Health and Safety; Public health, Healthcare; Emergency Medical Services; Planning

Sequence of Events (Times variable based on flow of events)

- 0900 The Somervell County Judge has ordered an evacuation of 2A, 2C, and 3B. During the evacuation there is an automobile accident involving residents of 2C on FM 56 three miles south of Comanche Peak.
- 0915 Somervell County 911 dispatch receives a phone call reporting the accident.
- 0920 Somervell County EMS is dispatched to respond to the accident.
- 0930 Somervell County EMS arrives at the scene of the accident and determines that one of the people involved is bleeding from their left arm and has a potentially broken wrist.
- 0935 The Somervell County EMS determines that the injured person is also potentially contaminated. The EMS staff prep the patient for transport to Texas Health Cleburne.
- 0945 Somervell County EMS contacts the ER at Texas Health Cleburne to inform them that they are on the way with a potentially contaminated patient.
- 1015 The ambulance arrives at THC and the patient is transferred to the hospital staff.
- 1115 Drill terminated.

Scenario Narrative

NOTE: The ambulance and EMS staff will be pre-staged at Byron Stewart Park located at 2424 W. Henderson Street in Cleburne, Texas.

The scenario is based on the premise that there has been a radiological release from Comanche Peak Nuclear Power Plant.

An evacuation has been ordered and the public is exiting Zones 2A, 2C, and 3B. In this scenario, a local resident (one of the evacuees) will be involved in a one car accident resulting in a lacerated arm and potentially broken wrist.

The accident victim has been contaminated by the release plume as determined by the Somervell ambulance crew radiation monitoring device.

The ambulance crew will contact Texas Health Cleburne and inform them that they are in route with the patient.

Upon being notified THC will establish a REA for handling a potentially contaminated patient.

The ER staff will receive the patient from the ambulance, transport them to the REA and begin treatment/decontamination. Decontamination efforts will continue until the contamination levels have been reduced to <300 cpm.



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