



# Diablo Canyon Power Plant

## After Action Report

French Hospital Medical Center (FHMC) - February 16, 2022  
Radiological Emergency Preparedness Program



FEMA

Published May 16, 2022

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## EXECUTIVE SUMMARY

The week of February 14, 2022, the United States Department of Homeland Security (DHS) Federal Emergency Management Agency (FEMA) evaluated a Medical Services (MS) exercise as part of the Diablo Canyon Power Plant (DCPP) biennial exercise cycle. FEMA conducted its evaluation as part of its Radiological Emergency Preparedness Program (REPP), which works to ensure that adequate capabilities exist to prevent, protect against, mitigate, respond to, and recover from radiological incidents involving commercial Nuclear Power Plants (NPPs). French Hospital Medical Center (FHMC) originally planned to participate in an MS exercise 2021 but had to postpone due to the COVID-19 public health emergency.

The purpose of the MS exercise was to assess the readiness of offsite response organizations (OROs) to respond to an incident occurring at DCPP. The MS exercise focused on assessing the ability of the OROs to implement appropriate plans and procedures to protect the health and safety of the public during a radiological emergency involving DCPP. In its evaluation, FEMA identified no Level 1 (L1) or Level 2 (L2) Findings, and no Plan Issues.

The evaluation was held in accordance with FEMA's policies and guidance for the implementation of state and local OROs radiological emergency response plans and procedures.

In summary, the OROs adequately demonstrated their capability to implement plans and procedures during the exercise. The Regional Assistance Committee (RAC) Chair has continued reasonable assurance that measures can be taken to protect the health and safety of the public in the event of a radiological incident occurring at DCPP.

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# **SECTION 1: EXERCISE OVERVIEW**

## **1.1 Exercise Details**

### **Exercise Name**

Postponed 2021 French Hospital Medical Center MS Exercise

### **Type of Exercise**

Tabletop discussion and selective criteria demonstration

### **Exercise Date**

February 16, 2022

### **Program**

U.S. DHS/FEMA REPP

### **Scenario Type**

Response to transfer and care of an injured and potentially radiological contaminated DCPD patient.

## **1.2 Exercise Planning Team Leadership**

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## 1.3 Participating Organizations

Jurisdiction and organizations that participated in the MS-1 exercise are as follows:

**Risk Jurisdiction:**

- County of San Luis Obispo (SLO)

**Private Organizations:**

- French Hospital Medical Center (FHMC)
- Pacific Gas and Electric (PG&E) – Diablo Canyon Power Plant (DCPP)



## **SECTION 2: EXERCISE DESIGN SUMMARY**

### **2.1 Exercise Purpose and Design**

FEMA administers the REPP pursuant to the regulations found in Title 44 Code of Federal Regulations (C.F.R.) § 350, 351 and 352 (October 2021) and the FEMA REPP Manual (January 2016).

Title 44 C.F.R. § 350 codifies 16 Planning Standards that form the basis for radiological emergency response planning for licensees and for state, local, and tribal governments impacted by the Emergency Planning Zones established for each NPP site in the United States. One of the REPP cornerstones established by these regulations is an eight-year exercise design cycle of offsite response capabilities.

The Extent of Play (EOP) agreement and approved scenario for the MS exercise allowed the OROs the opportunity to implement and demonstrate their plans and procedures to protect the health and safety of the public in the event of a radiological incident occurring at an NPP. Exercise planners utilized the elements described in the REPP Manual (January 2016) and Homeland Security Exercise and Evaluation Program (January 2020) to develop this exercise.

In addition, FEMA reviews RERP plans and procedures, and periodically verifies the requirements identified in U.S. NUREG 0654/FEMA REP 1 rev 1. If exercise performance, and plans and procedures are found satisfactory, FEMA provides a statement along with a copy of this report to the U.S. Nuclear Regulatory Commission that state and local plans and procedures are adequate and can be implemented to protect the health and safety of the public living near an NPP.

### **2.2 Core Capabilities, and Assessment Areas Evaluated**

The establishment of National Preparedness System has steered DHS towards a capabilities-based approach to planning. Capabilities-based planning focuses on planning under uncertainty since the next disaster can never be forecasted with complete accuracy. Therefore, capabilities-based planning takes an all-hazards approach to planning and preparation which builds capabilities that can be applied to a wide variety of incidents, while working within an economic framework.

Capabilities-based planning also helps organizations and communities prioritize, plan, and organize efforts to maintain and improve their capacity to effectively manage potential challenges and circumstances.

Core Capabilities, along with their associated capability targets and performance measures, are distinct critical elements necessary to meet the National Preparedness Goal (September 2015) and are essential for the execution of all Mission Areas.

Core Capabilities are grouped and organized into five Mission Areas, each of which address different elements of risk management and/or consequence management: Prevention, Protection, Mitigation, Response, and Recovery. Some Core Capabilities are included in multiple Mission Areas.

The MS exercise involved four Core Capabilities – Planning, Operational Coordination, Environmental Response and Health and Safety, and Operational Communications – from across three Mission Areas: Prevention, Protection, and Response. These Core Capabilities formed the basis for the MS exercise objectives and the specific critical tasks that were observed and evaluated:

### **Planning**

Objective: Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or tactical-level approaches to meet defined objectives.

Critical Task: Identify critical objectives during the planning process, provide a complete and integrated picture of the sequence and scope of the tasks to achieve the objectives, and ensure the objectives are implementable within the time frame contemplated within the plan using available resources for prevention-related plans.

### **Operational Coordination**

Objective: Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

Critical Task: Establish and maintain partnership structures among Protection elements to support networking, planning, and coordination. Establish tiered, integrated leadership, and

inclusive coordinating organizations that operate with a unity of effort and are supported by sufficient assessment and analysis to provide defined structure and decision-making processes for recovery activities.

### **Environmental Response and Health and Safety**

Objective: Conduct appropriate measures to ensure the protection of the health and safety of the public and workers, as well as the environment, from all-hazards in support of responder operations and the affected communities.

Critical Task: Identify, assess, and mitigate worker health and safety hazards and disseminate health and safety guidance and resources to response and recovery workers. Identify, evaluate, and implement measures to prevent and minimize impacts to the environment, natural and cultural resources, and historic properties from all-hazard emergencies and response operations.

### **Operational Communications**

Objective: Ensure the capacity for timely communications in support of security, situational awareness, and operations by any means available, among and between affected communities in the impacted area and all response forces.

Critical Task: Ensure the capacity to communicate with both the emergency response community and the affected populations and establish interoperable voice and data communications between Federal, tribal, state, and local first responders.

Several corresponding activities and tasks (Assessment Areas) were also linked to each of the above Core Capabilities to provide additional detail.

## **2.2.1 Core Capabilities Demonstrated**

Core Capabilities are included in all five Mission Areas and help to tie them together. They are also essential for the other Core Capabilities to function properly.

The MS exercise evaluated OROs' ability to demonstrate the following Core Capabilities:

- Planning
- Operational Coordination
- Environmental Response/Health and Safety
- Operational Communications

Specifically, the exercise tested OROs' ability to perform the following activities related to these Core Capabilities:

- Develop a set of planning factors, intended to mimic a series of cascading incidents, and identify the necessary core capabilities.
- The whole community must maintain the ability to conduct mission essential functions during an actual hazard or incident to ensure delivery of core capabilities for all mission areas.
- Conduct appropriate measures to ensure the protection of the health and safety of the public and workers, as well as the environment, from all hazards in support of responder operations and the affected communities.
- Ensure the capacity for timely communications in support of security, situational awareness, and operations by all means available, among and between affected communities in the impacted area.
- Provide lifesaving medical treatment by Emergency Medical Services and related operations and avoid additional disease and injury by providing targeted public health, medical, and behavioral health support, and products to all affected populations.

ORO's were evaluated based on their ability to meet the following REPP criteria as they performed these activities during the exercise: 1.d.1, 1e.1, 3.a.1, and 6.d.1.

## **2.2.2 Assessment Areas and Criteria Evaluated**

Assessment Areas set the standard for an ORO's ability to perform a specific emergency function under the sub-element (e.g., communicating among response organizations, alerting, and notifying the public). Additionally, demonstration criteria objectives provide evaluation parameters much like the Core Capabilities are used as a basis for evaluating and validating capability as described in the Homeland Security Exercise and Evaluation Program (HSEEP) guidance.

ORO's executed the following assessment areas, with references to the 16 Planning

Standards, contained in the FEMA REPP Manual (January 2016), and associated Core Capabilities from the U.S. DHS National Preparedness Goal (September 2015) and Title 44 C.F.R. § 350 (October 2011).

FEMA evaluated OROs during the MS exercise using the assessment areas listed below; OROs were expected to satisfy the REPP criteria and sub-elements for each assessment area:  
Assessment Area 1 – Emergency Operations Management

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654/FEMA-REP-1, F.1, 2)

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies are sufficient to support emergency operations. (NUREG-0654/FEMA REP-1, H.7, 10; I.7, 8, 9; J.10.a, b, e; J.11, 12; K.3.a; K.5.b)

Assessment Area 3 – Protective Action Implementation

Criterion 3.a.1: The OROs issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers in accordance with the plans/procedures. Emergency workers periodically, and at the end of each mission, read their dosimeters and record the readings on the appropriate exposure record or chart. Appropriate record keeping of the administration of KI for EWs is maintained. (NUREG-0654/FEMA-REP-1, J.10.e; K.3.a, b; K.4)

Assessment Area 6 – Support Operation / Facilities

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654/FEMA-REP-1, F.2; H.10; K.5.a, b; L.1, 4)

## **2.3 Scenario and Extent of Play Summary**

The February 16, 2022, Postponed 2021 FHMC MS Exercise was based on a radiological

scenario occurring onsite at DCPD which invoked local OROs and private organizations to conduct emergency response actions.

The MS exercise Extent of Play (EOP) agreement identifies exercise planning deviations from the local OROs Standard Operating Procedures (SOP). The EOP agreement was submitted to FEMA Region 9 Regional Assistance Committee (RAC) Chair on January 4, 2022. The EOP agreement was reviewed and approved on January 13, 2022, by the FEMA Region 9 RAC Chair who made the final determination that it was adequate to support demonstration of DHS/FEMA criteria requirements as outlined in the REP Program Manual (January 2016).

The MS exercise was developed with the scenario that an injured and potentially radiologically contaminated DCPD employee was enroute to FHMC.

Due to the COVID-19 public health emergency, aspects of the scenario demonstration of criteria were limited to follow COVID safety policies of responding/participating agencies and to reduce the risk of disease transmission.

All required ambulance activities were demonstrated and evaluated in July 2021.

### **Narrative Summary of Scenario:**

**Overview:** The MS exercise focused only on FHMC's responsibilities for transferring and treating a radiologically contaminated injured patient from DCPD. This included the mobilization of hospital staff, assigning roles, communications (external/internal), facility preparation prior to patient arrival, establishing and maintaining secure boundaries to avoid cross contamination, and hospital staff demobilization.

Due to COVID-19 restrictions, the tabletop discussion and limited criteria demonstration were held in a location outside the main hospital.

Tabletop participants included (but were not limited to)

- Emergency Department Physician (EDP)
- Emergency Department Shift Lead (EDSL)
- Nuclear Medicine Technician (NMT)
- Radiation Safety Officer (RSO)

- DCPD Radiological Protection (RP) Tech (representing all RP positions)

**Scenario:** A DCPD employee is injured onsite and may have been exposed to radiation. They are being transported by ambulance to FHMC.

As per the EOP, DCPD RP staff arrive to FHMC to interface with hospital staff during the tabletop discussion. Hospital staff have brought a DCPD hospital cart to the evaluation location for the limited criteria demonstration portion of the MS exercise.

Hospital and DCPD staff will discuss mobilization, communications, Emergency Worker Exposure Control (EWEC) equipment distribution, setting up safety boundaries, and patient transfer and treatment.

The hospital made available for the FEMA evaluator to review: a hard copy of their plan and procedures for receiving and treating a contaminated, injured individual; a DCPD hospital cart; survey meters; and EWEC equipment.

#### **Extent of Play Agreement Summary:**

The purpose of the EOP agreement is to identify participants, negotiate evaluation areas, identify demonstration criteria/objectives and limitations, and identify previous Plan Issues (PI) and document deviations from the applicable plans that were evaluated during the MS exercise.

The County of SLO Office of Emergency Services provided to FEMA the following Standard Operating Procedures for review and use by responding OROs during the MS exercise. The submitted SOPs included:

- FHMC (September 2021)
- N06-HP11 Emergency Worker Exposure Control (EWEC) (July 2016)
- N06-HP16 Radiation Survey Equipment (February 2019)

The approved EOP agreement included limitations that supported COVID 19 restrictions such as conducting interviews, table-top discussions, and demonstrating actions outside of the hospital setting.

Successful demonstration of criteria objectives validates that continued reasonable assurance exists to protect that the health and safety of the general public during a NPP incident.

## **SECTION 3: ANALYSIS OF CAPABILITIES**

### **3.1 Exercise Evaluation and Results**

This section presents the results and findings of the FEMA evaluation of the private organization that participated in the February 16, 2022, Postponed 2021 FHMC MS Exercise.

The risk jurisdiction and private organizations were evaluated based on their demonstration of offsite emergency response Core Capabilities and selected demonstrated criteria as indicated in the EOP agreement and as outlined in the FEMA REPP Manual (January 2016).

### **3.2 Summary Results of Exercise Evaluation**

The FEMA REPP uses an alphanumeric key to indicate status classification of demonstrated criteria. Alphanumeric key definitions as defined in the FEMA REPP Manual (January 2016) are listed below.

Level 1 Finding: “An observed or identified inadequacy of organizational performance in an exercise 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 NPP.”



Level 2 Finding: “An observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety.”

Met: “The jurisdiction or functional entity performed all activities under the Demonstration Criterion to the level required in the EOP agreement, with no L1 or L2 Findings assessed under that criterion in the current exercise and no unresolved prior Level 2 Findings.”

Not Demonstrated: “For a justifiable reason, the jurisdiction or functional entity did not perform activities under the Demonstration Criterion as specified in the EOP agreement or at the frequency required in Exhibit III-2, FEMA REPP Manual, (January 2016).”

Plan Issue: “An observed or identified inadequacy in the OROs emergency plan/procedures, rather than that in the OROs performance.”

The following matrix presents FEMA’s findings for each of the demonstration criteria evaluated in the assessment areas for the MS exercise:

<p style="text-align: center;"><b>DATE: 02-16-2022</b></p> <p style="text-align: center;"><b>SITE: French Hospital Medical Center</b></p> <p style="text-align: center;"><b>L1: Level 1 Finding      L2: Level 2 Finding</b></p> <p style="text-align: center;"><b>M: Met      P: Plan Issue      N: Not Demonstrated</b></p> <p style="text-align: center;"><b>Assessment Areas</b></p>		<b>DEMONSTRATION CRITERIA</b>	French Hospital Medical Center
<b>Emergency Operations Management</b>			
Communications		1.d.1	M
Equipment and Supplies to Support Operations		1.e.1	M
<b>Protective Action Implementation</b>			
Implementation of Emergency Worker Exposure Control		3.a.1	M
<b>Support Operations and Facilities</b>			
Transportation and Treatment of Contaminated Injured Individual(s)		6.d.1	M

## **3.3 Criteria Evaluation Summaries**

### **3.3.1 Private Organization**

A non-federal body such as faith-based organizations, schools, or independent healthcare that provide emergency protective measures on behalf of state, local, tribal, or territorial governments.

#### **3.3.1.1 French Hospital Medical Center**

Offsite participants received, treated, and decontaminated an injured, radiologically contaminated patient.

All activities were based on the plans and procedures and completed as they would have been in an actual emergency except as noted in the EOP agreement.

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

- a. MET: 1.d.1, 1.e.1, 3.a.1 and 6.d.1
- b. LEVEL 1 FINDING: None
- c. LEVEL 2 FINDING: None
- d. PLAN ISSUES: None
- e. NOT DEMONSTRATED: None
- f. PRIOR ISSUES – None
- g. PRIOR ISSUES - UNRESOLVED: None

## SECTION 4: CONCLUSION

FEMA Region 9 evaluated a MS Exercise for the 10-mile Emergency Planning Zone surrounding DCPD during the week of February 14, 2022.

The purpose of the MS exercise was to evaluate the ability of OROs to implement REPP plans and procedures to protect the health and safety of the public during a radiological emergency involving DCPD.

FEMA focused its evaluation of the MS exercise on assessing the demonstrated ability of OROs to meet the demonstration criteria delineated in the exercise areas as outlined in NUREG-0654/FEMA-REP-1 Rev. 1, and FEMA REPP Manual, (January 2016).

The MS exercise and evaluation were conducted in accordance with FEMA policies and guidance concerning plans and procedures. All exercise activities were also conducted in accordance with local, state, and federal health guidelines for the ongoing COVID-19 public health emergency. This after-action report captures the results of FEMA's evaluation of OROs' demonstrated ability to meet 4 demonstration criteria.

In summary, the OROs demonstrated their capability to implement plans and procedures during the exercise. The Regional Assistance Committee Chair has continued reasonable assurance that measures can be taken to protect the health and safety of the public in the event of a radiological incident occurring at DCPD.

## APPENDIX A

### EXERCISE EVALUATORS

LOCATION	Evaluators	AGENCY
French Hospital Medical Center Criteria 1.d.1 and 1.e.1	Alberto Sifuentes	FEMA Region 9
French Hospital Medical Center Criteria 3.a.1 and 6.d.1	Brad DeKorte	FEMA Region 6

## APPENDIX B

### ACRONYMS AND ABBREVIATIONS

Acronym	Phrase
C.F.R.	Code of Federal Regulations
CHO	County Health Officer
DCPP	Diablo Canyon Power Plant
DHS	Department of Homeland Security
EDP	Emergency Department Physician
EDSL	Emergency Department Shift Lead
EOP	Extent of Play
EW	Emergency Worker
EWEC	Emergency Worker Exposure Control
FEMA	Federal Emergency Management Agency
FHMC	French Hospital Medical Center
KI	Potassium Iodide
L1	Level 1 Finding
L2	Level 2 Finding
MS	Medical Services
NMT	Nuclear Medicine Technician
NPP	Nuclear Power Plant
NUREG	Nuclear Regulatory Commission Regulation
ORO	Offsite Response Organization
PG&E	Pacific Gas and Electric
PI	Plan Issue
RAC	Regional Assistance Committee
REP	Radiological Emergency Preparedness
REPP	Radiological Emergency Preparedness Program
RP	Radiation Protection
RSO	Radiation Safety Officer
SLO	San Luis Obispo
SOP	Standard Operating Procedure
U.S.	United States