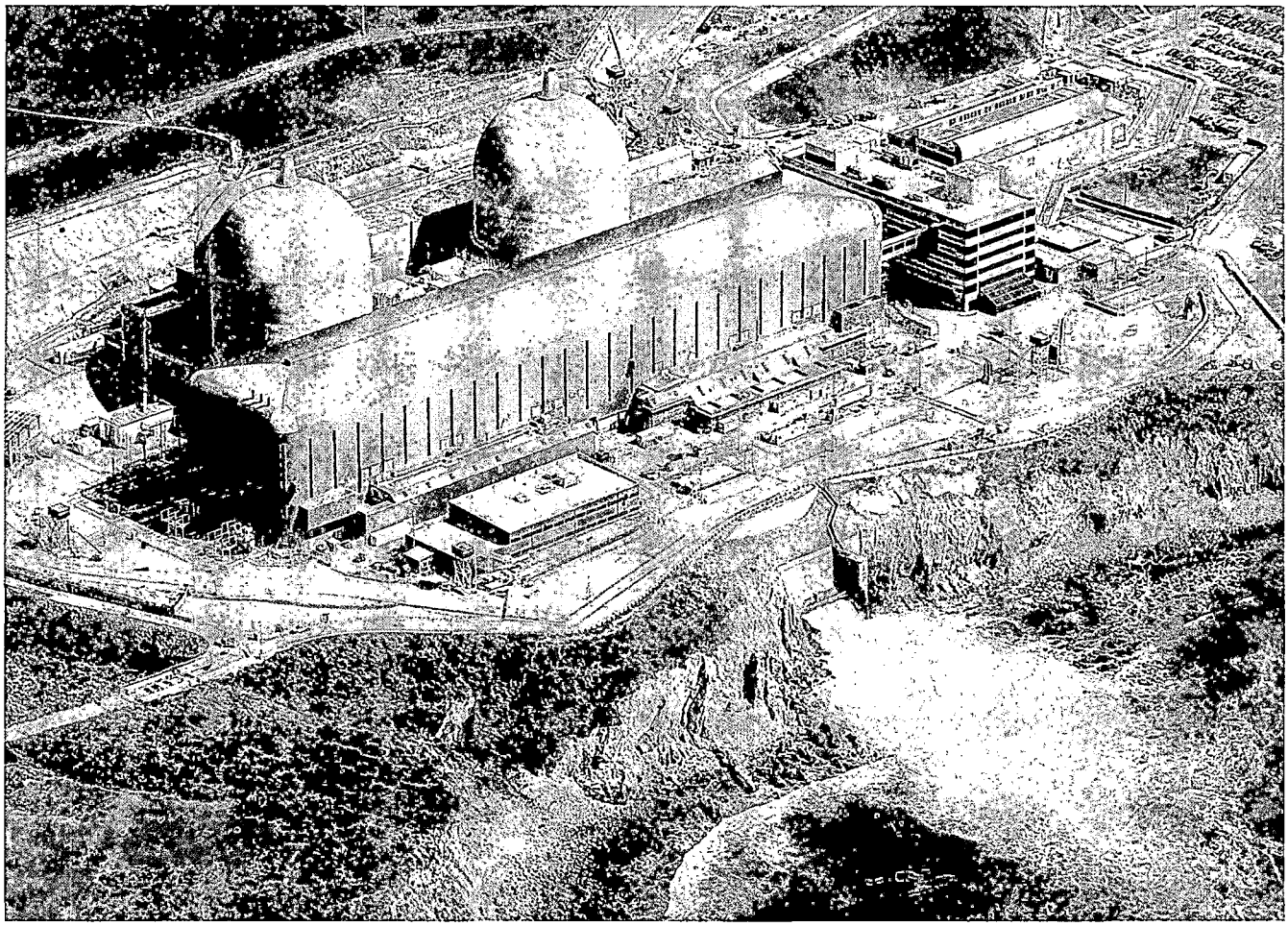

Diablo Canyon Power Plant
After Action Report/Improvement Plan

Exercise Dates: March 21, 2018, and
March 23, 2018

Radiological Emergency Preparedness Program

FEMA

Publication Date: June 05, 2018

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Diablo Canyon Power Plant

After Action Report/Improvement Plan

Contents

EXECUTIVE SUMMARY 5
SECTION 1: EXERCISE OVERVIEW 7
1.1 Exercise Details 7
1.2 Exercise Planning Team Leadership 7
1.3 Participating Organizations 8

SECTION 2: EXERCISE DESIGN SUMMARY 10
2.1 Exercise Purpose and Design 10
2.2 Exercise Demonstration Criteria and Core Capabilities 10
2.2.1 Demonstration Criteria 12
2.2.2 Core Capabilities 13
2.3 Scenario Summary and Extent-of-Play Agreement Summary 15

SECTION 3: ANALYSIS OF CAPABILITIES 18
3.1 Exercise Evaluation and Results 18
3.2 Summary Results of Exercise Evaluation 18
3.3 Criteria Evaluation Summaries 21
3.3.1 Support Jurisdictions 21
3.3.1.1 Northern Evacuee Monitoring and Decontamination Center – Estrella Facility (Alex Madonna Expo Center) 21
3.3.2 Risk Jurisdictions 26
3.3.2.1 Backup Alert & Notification – CAL FIRE Station #62 26
SECTION 4: CONCLUSION 27
APPENDIX A: EXERCISE EVALUATORS AND TEAM LEADERS 28
APPENDIX B: ACRONYMS AND ABBREVIATIONS 29

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EXECUTIVE SUMMARY

The United States Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA) Region IX National Preparedness Division (NPD), Technological Hazards Branch (THB), evaluated a Northern Evacuee Monitoring and Decontamination (EMAD) Center for emergency offsite response organizations (ORO) on March 21, 2018. Additionally, a Backup Alert and Notification (BA&N) Demonstration was conducted on March 23, 2018, at the California Department of Forestry and Fire Protection (CAL FIRE)/San Luis Obispo (SLO) County Fire Station # 62 in Avila Beach, California.

The predesignated EMAD Center is located outside the Emergency Planning Zone (EPZ) surrounding the Diablo Canyon Power Plant (DCPP). On March 14, 2018, the County of SLO Office of Emergency Services (OES) submitted a request for change of venue from the Estrella Facility (outdoor) to the Alex Madonna Expo Center (indoor) due to a forecast of inclement weather occurring on the day of the exercise.

The request was reviewed and approved by the FEMA Region IX THB Regional Assistance Committee (RAC) Chair on March 14, 2018.

The purpose of the exercise and demonstration is to assess State and local ORO level of preparedness in response to a radiological incident occurring at DCPP. The assessment is part of the Radiological Emergency Preparedness Program (REPP) to ensure that adequate capabilities exist to prevent, protect against, mitigate the effects of, respond to and recover from incidents involving commercial nuclear power plants (NPP).

The Northern EMAD Center Exercise and BA&N Demonstration, was held in accordance with FEMA's policies and guidance concerning the implementation of State and local ORO Radiological Emergency Response Plans (RERP) and procedures.

The Extent-of-Play (EOP) Agreement was reviewed, and approved by the FEMA Region IX RAC Chair prior to the scheduled date of the exercise/demonstration.

The evaluation resulted in no Level 1 (L1) or Level 2 (L2) Findings. One Plan Issue (PI) was identified in the Northern EMAD Center Exercise.

In Summary: The State and local ORO demonstrated that their plans and procedures could be adequately implemented. The Federal Emergency Management Agency has Reasonable Assurance that measures can be taken to protect the health and safety of the public in the event of a radiological incident at DCPP.

SECTION 1: EXERCISE OVERVIEW

1.1 Exercise Details

Exercise Name

Diablo Canyon Power Plant

Type of Exercise

Northern Evacuee Monitoring and Decontamination Center Exercise, and Backup Alert and Notification Demonstration

Exercise Date

March 21, 2018, and March 23, 2018

Program

United States 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 DCPP Northern EMAD Center Exercise and BA&N Demonstration:

State Jurisdictions:
California's Governor's Office of Emergency Services
California Department of Public Health

Risk Jurisdictions:

County of San Luis Obispo

Participating Agencies:

CAL FIRE/SLO County Fire

Cambria Community Services District

City of Atascadero

County of San Luis Obispo Office of Emergency Services

Volunteer Organizations

Amateur Radio Emergency Communications

American Red Cross of Central California

Private Organizations

Pacific Gas and Electric – Diablo Canyon Power Plant

Federal Jurisdictions

Federal Emergency Management Agency

SECTION 2: EXERCISE DESIGN SUMMARY

2.1 Exercise Purpose and Design

The Federal Emergency Management Agency administers the REPP pursuant to the regulations found in Title 44 Code of Federal Regulations (C.F.R.) § 350, 351 and 352 (October 2011) and the FEMA REPP Manual (January 2016).

Title 44 C.F.R. § 350 (October 2011) codifies 16 Planning Standards that form the basis for radiological emergency response planning for licensees, State, local, and tribal governments impacted by the EPZ's established for each NPP site in the United States of America.

One of the REPP cornerstones established by these regulations is an eight year exercise design cycle of offsite response capabilities. The scenario for the Northern EMAD Center Exercise and the BA&N Demonstration was based on the 2016 Ingestion Phase Exercise (IPX), where State and local governments demonstrated their abilities to implement their plans and procedures to protect the health and safety of the public in the event of a radiological incident occurring at a nuclear plant.

The results of this exercise, together with the review of the RERP's and procedures, the verification of the periodic requirements (found and identified in United States Nuclear Regulatory Commission Regulation (NUREG) -0654/FEMA- Radiological Emergency Preparedness (REP) -1) enable FEMA to provide a statement with transmission of this final After Action Report to the United States Nuclear Regulatory Commission (NRC) that State, and local plans and preparedness are:

- Adequate to protect the health and safety of the public living in the vicinity of the nuclear power facility, and
- That appropriate protective measures can be implemented offsite in the event of a radiological incident occurring at the nuclear power facility.

2.2 Exercise Demonstration Criteria, and Core Capabilities

The Northern EMAD Center Exercise and BA&N Demonstration are conducted to provide FEMA the opportunity to evaluate and assess emergency plans and associated

implementing procedures, and facilities and equipment, which would be used in a radiological incident occurring at an NPP.

Core Capabilities-based planning allows for exercise planning teams to develop radiological emergency plans, exercise objectives and evaluate exercise outcomes through a framework of specific action items derived from the 2007 Core Capabilities List. The following seven Core Capabilities, and their definitions, form the basis for FEMA REPP exercise objectives observed and evaluated.

Environmental Response/Health and Safety

Description: 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.

Mass Care Services

Description: Provide life-sustaining and human services to the affected population, to include hydration, feeding, sheltering, temporary housing, evacuee support, reunification and distribution of emergency supplies.

Operational Communications

Description: 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.

Operational Coordination

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

Planning

Description: 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.

Public Information and Warning

Description: Deliver coordinated, prompt, reliable, and actionable information to the whole

community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard, as well as the actions being taken and the assistance being made available, as appropriate.

Public Health, Healthcare, and Emergency Medical Services

Description: Provide lifesaving medical treatment via 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.

Additionally, each Core Capability was linked to several corresponding activities and tasks to provide additional detail.

2.2.1 Exercise Demonstration Criteria

Offsite Response Organizations demonstrated the following criteria, with references to the 16 Planning Standards, contained in FEMA REPP Manual (January 2016), and associated Core Capabilities from the U.S. DHS National Preparedness Goal (September 2015). The 16 Planning Standards are published in NUREG-0654/FEMA-REP-1, and are identified below as an alphanumeric sub-element.

Assessment Area 1 – Emergency Operations Management

Criterion 1.b.1: Facilities are sufficient to support emergency response. (NUREG-0654/FEMA-REP-1, H.3; G.3.a; J.10.h; J.12; K.5.b)

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 ORO's issue appropriate dosimetry, KI, and procedures, and manage radiological exposure to emergency workers (EW) 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 5 – Emergency Notification and Public Information

Criterion 5.a.3: ORO's provide accurate subsequent emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654/FEMA-REP-1, E.6, Appendix 3.B.2.c)

Assessment Area 6 – Support Operations/Facilities

Criterion 6.a.1: The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees. (NUREG-0654/FEMA-REP-1, A.3; C.4; J.10.h; J.12)

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross (ARC) planning guidelines. Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654/FEMA-REP-1, J.10.h; J.12)

2.2.2 Core Capabilities

The U.S. DHS National Preparedness Goal (September 2015) organizes Core Capabilities into five Mission Areas. Mission Areas serve as an aid in integration and coordination across Core Capabilities to achieve the goal of a secure and resilient nation.

Of the four REPP Assessment Areas and Demonstration Criteria listed in 2.2.1, there are three Core Capabilities which are Common to all the five Mission Areas.

The three Core Capabilities are:

- Planning
- Operational Coordination, and
- Public Information and Warning.

There are four Core Capabilities which span one of the five Mission Areas: Response. The four Core Capabilities are:

- Environmental Response/Health and Safety,
- Mass Care Services,
- Operational Communications, and
- Public Health and Emergency Medical Services.

The seven Core Capabilities presented above, are shown below with associated Mission Areas and related REPP demonstration criteria evaluated during the Northern EMAD Center Exercise and BA&N Demonstration:

Response Mission Area Core Capabilities emphasizes saving and sustaining lives, stabilizing the incident, rapidly meeting basic human needs, establishing a safe and secure environment, and supporting the transition to recovery. Associated diverse activities include:

- Mobilize all critical resources and establish command, control, and coordination structures within the affected community and other coordinating bodies in surrounding communities and across the Nation.
- Enhance and maintain command, control and coordination structures, consistent with the National Incident Management System.
- Establish physical access through appropriate transportation corridors and deliver required resources to save lives and to meet the needs of disaster survivors.
- Identify, assess, and mitigate worker health and safety hazards and disseminate health and safety guidance and resources to response and recovery workers.
- Deliver medical countermeasures to exposed populations.

Response Mission Area Core Capabilities is met by the demonstration of REPP criteria: 1.d.1, 1.e.1, 3.a.1, 6.a.1, and 6.c.1.

Common Mission Area Core Capabilities serve to unify the mission areas and, in many ways, are necessary for the success of the remaining core capabilities. Associated diverse activities include:

- Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operation and/or tactical-level approaches to meet defined objectives.
- Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding relay information regarding any threat or hazard, as well as the actions being taken and the assistance being made available, as appropriate.
- Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

Common Mission Area Core Capabilities is met by the demonstration of REPP criteria: 3.a.1, 5.a.3, and 6.c.1.

2.3 Scenario and Extent-of-Play Agreement Summary

The March 21, 2018, Northern EMAD Center Exercise was based on a scenario of events occurring at DCPP that invoked emergency response actions to be carried out by the OROs during the November 2 - 4, 2016, IPX Exercise. The same IPX scenario drove the response events on March 23, 2018, for the BA&N Demonstration with the focus on developing and carrying out backup route alert to the population surrounding a malfunctioning siren in the EPZ.

A technical review of the IPX scenario was conducted on October 11, 2016, by FEMA Region IX THB RAC Chair and determined that it was adequate to support demonstration of DHS/FEMA requirements, as well as selected offsite evaluation criteria per the EOP Agreement, and as provided in the REPP Manual (January 2016).

A summary of the DCPP IPX scenario is as follows (times listed are for planning purposes only):

Initial conditions at DCPP have both units at 100% power and operating at normal operating temperature and pressure.

At 0809, the containment fan-cooling unit (CFCU) 1-4, develops a large leak. DCPP operators isolate the leak and electrically disable CFCU 1-4.

0833: Significant mechanical damage to a limited number of fuel pins is caused by loose parts. A number of loose parts finally lodging in upper area of fuel assembly and shutdown of Unit 1 is initiated as per operating procedure.

0929: Centrifugal charging pumps 1-3 experience an overcurrent condition, but breaker 52-HG-11 fails to open. Auxiliary transformer 1-2 4kV Bus G feeder breaker 52-HG-13 opens, and 4kV Bus G is de-energized and locked out.

1002: Unit 1 main turbine auto-stop oil pressure rapidly decreases when an oil line threaded fitting fails causing a main turbine to "trip" and initiate a reactor trip signal. The reactor fails to trip, and additional fuel damage occurs. The reactor was successfully tripped, from the Control Room, 90 seconds later.

1037: A loss of coolant accident occurs causing Containment Area High Range Radiation Monitors (CAHRRM) 30/31 to indicate rising radiation levels in containment. Containment Exhaust Isolation Value (CEIV) RCV-11 disk mechanically fails and rotates slightly off its seat due to manufacturing defect.

1047: CAHRRM 30/31 reads > 80 R/hr. This constitutes a potential loss of the containment fission product barrier. A Recommend Protective Action Recommendation is sent to evacuate Protective Action Zone (PAZ) 1 and 2 and the surrounding Ocean out to 5 Nautical Miles.

This constituted a potential loss of the containment fission product barrier. A Protective Action Decisions (PAD) was made to evacuate PAZ 1 and 2, establish a 5 Nautical Mile safety zone in the off shore surrounding DCPP, and activate/sound the Early Warning System (EWS) sirens.

Following the sounding of the EWS sirens, the Emergency Alert System provided information to the public regarding the evacuation order for PAZ 1 & 2, and actions they should take.

During the sounding of the EWS sirens, the Sheriff Watch Commander (SWC) was alerted that siren #0330 had failed. The SWC notified SLO County Fire of the failure and directed them to implement BA&N for siren #0330.

At 1126, containment loss and radiological release occur due to CEIV RCV-12 which had rotated off its seat due to common-mode failure as RCV-11.

This sequence of events initiates an offsite radiological release. The radiological release was monitored by plant vent effluent monitors and a PAD was made to evacuate PAZ 3, 4 & 5.

All EWs and the public within the EPZ have been notified of the emergency occurring at DCPP, and the evacuations of PAZ 1-5 were completed. Evacuees were also notified of the establishment and activation of EMAD Centers at Central Coast New Tech High School to the south of SLO, and the Estrella Facility to the north.

Note: the County of SLO EOC, and individual City EOCs within the County of SLO, California Department of Public Health's Department Operations Center and DCPP Emergency Response Facilities were all activated; but will not be participating in this exercise or demonstration.

1330: ENDEX - Approximate time set for Northern EMAD Center Exercise termination on March 21, 2018.

1100: ENDEX - Approximate time set for the BA&N Demonstration termination on March 23, 2018.

Extent-of-Play Agreement Summary:

The purpose of the EOP Agreement is to identify participants, negotiate evaluation areas, demonstration criteria and limitations, identify previous PIs, and any planned deviations from the implementation of the applicable plans that will be evaluated during the EMAD

Center Exercise and BA&N Demonstration.

Applicable plans include the County of SLO NPP Emergency Response Plans (ERP) and Standard Operating Procedures (SOP), and Pacific Gas and Electric Radiation Control Procedures. The State and OROs will implement applicable elements in these plans and procedures.

The expected outcome, of the OROs, is the demonstration of Reasonable Assurance that the health and safety of the general public can be protected during an NPP incident.

Pursuant to FEMA policy, federal agencies are not evaluated during an evaluated exercise or drill. Federal actions that result in State or ORO non-compliance of an evaluation area may be documented by the evaluator but will not result in any finding.

The FEMA Lead Evaluator and the County of SLO OES Lead Exercise Controller will terminate the exercise or demonstration when all parties agree that all the required demonstration criteria have been adequately demonstrated and evaluated.

SECTION 3: ANALYSIS OF CAPABILITIES

3.1 Exercise 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 March 21, 2018, Northern EMAD Center Exercise and the BA&N Demonstration in March 23, 2018, demonstrating portions of their offsite emergency response capabilities inside and outside of the EPZ surrounding DCPP.

Each jurisdiction and functional entity was evaluated on its demonstration of selected 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 matrix in Table 3.1 presents the status of all exercise and demonstration Assessment Areas and sub-element criterion that were demonstrated, for evaluation during the Northern

EMAD Center and BA&N Demonstration, by all participating jurisdictions and functional entities. The FEMA REPP uses the following alphanumeric key to indicate demonstration status of those criteria evaluated during the exercise and demonstration:

L1 – Level 1 Finding was identified
L2 – Level 2 Finding was identified
M – Met (No L1 or L2's assessed and no unresolved Area(s) Requiring Corrective Actions from prior exercises)
N – Not Demonstrated
PI – Plan Issue was identified

Below are the alphanumeric key definitions as defined in the FEMA REPP Manual, (January 2016):

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 nuclear power plant."

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: "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."

Plan Issue: "An observed or identified inadequacy in the ORO's emergency plan/procedures, rather than in the ORO's performance."

The identifying number for L1 Finding and L2 Finding includes the following elements, with each element separated by a hyphen (-).

- Plant Site Identifier – A two-digit number corresponding to the Utility Billable Plant Site Codes (19 is the code for DCPP).
- Exercise Year – The last two digits of the year the exercise or drill was conducted.
- Demonstration Criterion – An alpha letter and two-digit number corresponding to the criteria in FEMA REP Exercise Preparation Guide (June 2013) ver. 3.
- Issue Classification Identifier – (L1, L2, or P)
- Exercise Issue Identification Number – A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

Table 3.1 - Summary of Exercise Evaluation

SITE: County of San Luis Obispo, CA. DATE: March 21, and March 23, 2018 L1: Level 1 Finding, L2: Level 2 Finding M: Met, PI: Plan Issue, N: Not Demonstrated	DEMONSTRATION CRITERIA		Alternate Northern Facility: Estrella at Paso Robles		Backup Alert & Notification: CAL FIRE Station #62 at Avila Beach
Emergency Operations Management					
Facilities	1b1		M		
Communications Equipment	1d1		M		
Equipment and Supplies to Support Operations	1e1		M		
Protective Action Implementation					
Implementation of Emergency Worker Exposure Control	3a1		M		
Emergency Notification and Public Info					
Activation of the Prompt Alert and Notification System	5a3				M
Support Operations/Facilities					
Monitoring, Decontamination, and Registration of Evacuees	6a1		PI		
Temporary Care of Evacuees	6c1		M		

3.3 Criteria Evaluation Summaries

3.3.1 Support Jurisdictions

3.3.1.1 Alternate Northern Evacuee Monitoring and Decontamination Center – Estrella Facility

All activities were completed in accordance with plans and procedures 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.b.1, 1.d.1, 1.e.1, 3.a.1, 6.c.1

b. LEVEL 1 FINDING: None

c. LEVEL 2 FINDING: None

d. **PLAN ISSUE: 19-18-6a1-P-1**

CRITERION: The reception center facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees. (NUREG-0654: A.3; C.4; J.10.h; J.12)

Condition: The portal monitors employed during the DCPP Northern Evacuee Monitoring and Decontamination Center Exercise utilize a motion sensor to activate the monitoring of evacuees processed through the portal monitors (Thermo TPM-DM). The motion sensor placement is approximately five feet above the floor and is angled downward, when an individual enters the monitor, the sensor activates the count and monitors the individual as they pass through the monitor. Individuals passing through the monitor in wheel chairs, or toddlers may not be tall enough when passing through the monitor to activate the counting sequence (they do not trip the motion sensor).

Possible Cause: The sensor is located too high on the side of the portal monitor to activate the counting sequence for people in wheel chairs, toddlers, or service animals.

Reference: Diablo Canyon Procedure RCP EM-19, FEMA-REP-21.

Effect: With the motion sensor located too high on the side of the monitor, individuals may pass through the monitor without activating monitoring, allowing potentially contaminated individuals to pass through without being monitored.

Recommendation: This condition was observed prior to the start of the drill. One monitor was adjusted so that the motion sensor would activate to monitor individuals in wheel chairs and the monitoring staff was briefed on the condition to ensure that if an individual did pass through without activating counting, that individual would be re-surveyed (the staff can activate monitoring by hand). It is recommended that all of the monitors be re-configured (if possible) to lower the motion sensor on the side of the monitor to correct this issue. If re-location of the motion sensor is not possible, the procedure for using the monitor (RCP EM-19) should be changed to ensure procedures are formalized so monitoring staff are vigilant in maintaining visual observation of the panel, and to stop and initiate corrective actions for those individuals that pass below the motion sensor. Thus, ensuring all individuals, including service animals, entering the portal monitors trigger the motion sensor.

e. NOT DEMONSTRATED: None

f. PRIOR ISSUE: 19-11-1e1-P-1

CRITERION: Equipment, maps, displays, dosimetry, Potassium Iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654: H.7, 10; J.10.a, b, e; J.11; K.3.a)

CONDITION: The checklists used to operationally test the survey instruments included a step to change the probe selector switch to the correct position for the Model 44-9 Geiger-Mueller probe, if not already in the correct position. Unlike the other toggle switches on the instrument, this switch must be lifted out of its locking position before it can be moved.

This is to prevent the operator from inadvertently changing this setting during operation. The checklist does not include a caution or a specific instruction that this switch must be lifted before it is moved. During the operational tests, one of the EW did not realize that this switch must be lifted first and broke the switch on one of the instruments. The EWs removed the instrument from service and labeled the instrument as broken.

Additional spare instruments were available. During subsequent operational tests, the EWs realized that the probe selector switch needed to be lifted before it was moved to the other position.

POSSIBLE CAUSE: Failure to lift the probe selector switch when changing the switch's position.

REFERENCE: NUREG-0654: H.7, 10; San Luis Obispo County Nuclear Power Plant Emergency Response Plan, Southern Evacuee Monitoring, Decontamination and Reception Center Operations (12/2011), Meter Testing Instructions.

EFFECT: This caused damage to a survey instrument resulting in the instrument being taken out of service.

RECOMMENDATION: Include in the current Meter Testing Instructions a caution for EWs that the switch must be raised prior to turning. Update and provide training for those users.

PLAN ISSUE RESOLVED and CLOSED: Revised SOP (N05-HP07 Environmental Health (Evacuee Decontamination – Northern EMAD Center: Jan 2018)), Checklist #14 – Floating Frisker, on page 70 provides guidance to the staff to "Lift probe selector switch out of locking position and set probe switch to 1 (RED dot). (Double check RED dot on probe)."

This demonstrates that a revision to the previous SOP has been made to address this PI.

PRIOR ISSUE: 19-11-6a1-P-2

CRITERION: Monitoring and decontamination of evacuees and emergency workers, and registration of evacuees – The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12; K.5.a)

CONDITION: EWs who wear only shoe covers and gloves into the controlled area are only required to have their hands and feet surveyed (portal monitor optional).

Decontamination Specialists do not have all potentially contaminated areas of their bodies surveyed prior to exiting the controlled area. They had their hands and feet surveyed, but not their faces; their faces are most likely to be contaminated while working in the controlled area.

POSSIBLE CAUSE: Checklist 19, Anti-Contamination Clothing Checklist, only requires that hands and feet be surveyed for contamination when protective clothing is removed. In an actual incident, it is likely that decontamination personnel will inadvertently touch their face or adjust glasses with gloved hands and could transfer contamination to their faces.

Other EWs who wear only shoe covers and gloves into the controlled area are required to have their hands and feet surveyed (portal monitor optional). The practice of surveying only hand and feet may be appropriate for a worker who spends very little time in the controlled area; however, those individuals could spend a significant amount of time in the controlled area around contaminated items and will likely touch their personal clothing or face.

REFERENCE: NUREG-0654: K.5.b; San Luis Obispo County Nuclear Power Plant Emergency Response Plan, Southern Evacuee Monitoring, Decontamination and Reception Center Operations (12/2011).

EFFECT: Emergency workers could exit the controlled area with contamination on their face, thighs or other body areas.

RECOMMENDATION: Require that all EWs exiting the controlled area be hand surveyed for spot contamination (areas of likely contamination such as face, thighs) and also be surveyed with a portal monitor. Clarify the demobilization step "have yourself monitored" in each position checklist.

PLAN ISSUE RESOLVED and CLOSED: Revised SOP (N05-HP7 Environmental Health (Evacuee Decontamination – Northern EMAD Center: Jan 2018)), Checklist #19 – Emergency Worker Exposure Control Staff Checklist, on page 89, sub-section 5.3.4 provides guidance to the staff to "Go through a portal monitor and have yourself monitored, and decontaminated if necessary,…."

This demonstrates that plan changes have been made to address this plan issue by having the emergency worker go through a portable portal monitor (no longer an option), and remove the sub-section to only having hands and feet surveyed.

PRIOR ISSUE: 19-11-6a1-P-3

CRITERION: Monitoring and decontamination of evacuees and emergency workers, and registration of evacuees – The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12; K.5.a)

CONDITION: Vehicles belonging to evacuees that alarmed the initial portal monitor were not identified and labeled.

POSSIBLE CAUSE: Station 1 is where evacuees that alarm the initial and secondary pre-decon portal monitor identify their vehicle to the Contaminated Evacuee Check-in Staff. This information is then communicated to Vehicle Taggers who place labels on those identified vehicles. Based on the current layout of the facility and Checklist 36, three evacuees were released to the Reception Center without checking in to Station 1. The current process directs the evacuee to doff footwear and wipe hands before being monitored with the secondary pre-decon portal monitor. The evacuee is only referred to Station 1 if they alarm the secondary pre-decon portal monitor.

REFERENCE: NUREG-0654: J.12; San Luis Obispo County Nuclear Power Plant Emergency Response Plan, Southern Evacuee Monitoring, Decontamination and Reception Center Operations (12/2011).

EFFECT: Decontaminated evacuees could leave the facility with a contaminated vehicle.

RECOMMENDATION: Reposition Station 1 so that any evacuee that alarms the initial portal monitor will have their vehicle identified and labeled.

PLAN ISSUE RESOLVED and CLOSED: Revised SOP (N05-HP7 Environmental Health (Evacuee Decontamination – Northern EMAD Center: Jan 2018)), Checklist #17 – Initial Portal Monitor Operators Checklist, page 80, sub-section 2.1.2 provides guidance to the staff "If evacuee alarms the portal, direct evacuee to pass through the portal monitor again. If it still alarms, direct evacuee towards Station 1 for additional monitoring and processing."

Checklist #23 – Mental Health Staff Checklist, page 102, subsection 2.2.1, "Evacuees will exit from three locations, meet with as necessary: * Following the

Initial Portals…." This statement then has a Mental Health EW acting as an escort to Station 1 – ensuring that the evacuee will proceed to the next station and deter any attempt to access another area of the Reception Center.

g. PRIOR ISSUES - UNRESOLVED: None

3.3.2 Risk Jurisdictions

3.3.2.1 Backup Alert & Notification – CAL FIRE Station #62

All activities were completed in accordance with plans and procedures 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: 5.a.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

SECTION 4: CONCLUSION

The Federal Emergency Management Agency, Region IX, evaluated a Northern EMAD on March 21, 2018, outside the EPZ surrounding DCPP, and a BA&N Demonstration on March 23, 2018. The purpose of the Northern EMAD Center Exercise, and BA&N Demonstration, was to assess the level of local and State emergency preparedness in response to a simulated radiological incident occurring at DCPP. This exercise and demonstration was conducted in accordance with FEMA policies, guidance concerning local, State RERPs, and procedures.

The County of SLO OES submitted the EOP Agreement's for the Northern EMAD Center Exercise and the BA&N Demonstration to FEMA Region IX THB on February 01, 2018

Both EOPs were reviewed, determined to be adequate, and approved for the demonstration of all evaluation criteria identified by FEMA Region IXs RAC Chair on February 23, 2018.

Copies of the EOP are maintained by FEMA Region IX NPD / THB, the state of California, the County of SLO OES, and is herein incorporated by reference.

Based on the evaluation of the March 21, 2018, Northern EMAD Center Exercise, and March 23, 2018, BA&N Demonstration, the offsite RERPs for the state of California and the affected local jurisdictions, site-specific to DCPP, can be implemented, and are adequate to provide continued 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 occurring at DCPP.

Therefore, Title 44 C.F.R. § 350, approval of the offsite RERPs and preparedness for the state of California site-specific to DCPP will remain in effect.

APPENDIX A: EXERCISE EVALUATORS

LOCATION	EVALUATOR	AGENCY
Incident Command Post / Command & Control / Communications	John Woytak	FEMA R IX
Evacuee Reception / Bus / Mental Health	Elena Joyner	FEMA R IX
Evacuee Arrival / Vehicle Parking & Initial Monitoring (OUTSIDE)	John Fill	FEMA HQ
Initial Monitoring (INSIDE) & Station #1 – Evacuee Check-in	Scott Flowerday	FEMA R VI
Secondary Portal and Station #2 – Property Receipt	Jeff Clark	FEMA RVII
Decon Shower & Post Decon Portal	Nan Calhon	FEMA R VI
Emergency Worker Check-in & Emergency Worker Exposure Control	Alberto Sifuentes *	FEMA R IX
Backup Route Alert & Notification Demonstration (CAL FIRE/SLO County Fire Station #62)	John Woytak	FEMA R IX

* Team Leader

APPENDIX B: ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
BA&N	Backup Alert and Notification
CAL FIRE	California Department of Forestry and Fire Protection
CAHRRM	Containment Area High Range Radiation Monitors
CEIV	Containment Exhaust Isolation Value
CFCU	Containment fan cooling unit
C.F.R.	Code of Federal Regulations
DCPP	Diablo Canyon Power Plant
DHS	United States Department of Homeland Security
DCPP	Diablo Canyon Power Plant
EMAD	Emergency Monitoring and Decontamination
EOP	Extent-of-Play
EPZ	Emergency Planning Zone
EW	Emergency Worker
EWS	Emergency Warning Sirens
FEMA	Federal Emergency Management Agency
IPX	Ingestion Phase Exercise
KI	Potassium Iodide
L1	Level 1 Finding
L2	Level 2 Finding
NPP	Nuclear Power Plant
NRC	United States Nuclear Regulatory Commission
NUREG	United States Nuclear Regulatory Commission Regulation
OES	Office of Emergency Services
ORO	Off-site Response Organization
PAD	Protective Action Decision
PAZ	Protective Action Zone
PI	Plan Issue
RAC	Regional Assistance Committee
NRC	United States Nuclear Regulatory Commission
NUREG	United States Nuclear Regulatory Commission Regulation
REP	Radiological Emergency Preparedness
REPP	Radiological Emergency Preparedness Program
RERP	Radiological Emergency Response Plans
SWC	Sheriffs Watch Center
SLO	San Luis Obispo

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