

Independent Assessment of Emergency Preparedness Capabilities at the Waste Isolation Pilot Plant

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Office of Enterprise Assessments U.S. Department of Energy

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Acronyms

BNA	Baseline Needs Assessment
CBFO	Carlsbad Field Office
CFR	Code of Federal Regulations
СННН	Covenant Health Hobbs Hospital
CMC	Carlsbad Medical Center
CMR	Central Monitoring Room
DOE	U.S. Department of Energy
EA	Office of Enterprise Assessments
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPHA	Emergency Planning Hazards Assessment
EPI	Emergency Public Information
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
FBI	Federal Bureau of Investigation
FD	Fire Department
FSM	Facility Shift Manager
HAZMAT	Hazardous Materials
IC	Incident Commander
JIC	Joint Information Center
LWA	Land Withdrawal Area
M&O	Management and Operating
MOU	Memorandum of Understanding
MRT	Mine Rescue Team
NMDHSEM	New Mexico Department of Homeland Security and Emergency Management
NNSA	National Nuclear Security Administration
NWP	Nuclear Waste Partnership, LLC
OE	Operational Emergency
OFI	Opportunity for Improvement
OHS	Occupational Health Services
PA	Protective Action
PAC	Protective Action Criteria
PAR	Protective Action Recommendation
PF	Protective Force
RAP	Radiological Assistance Program
REAC/TS	Radiation Emergency Assistance Center/Training Site
SIMCO	Salado Isolation Mining Contractors, LLC
SFO	Senior Federal Official
SOC	Security Operations Center
TRU	Transuranic
WIPP	Waste Isolation Pilot Plant

INDEPENDENT ASSESSMENT OF EMERGENCY PREPAREDNESS CAPABILITIES AT THE WASTE ISOLATION PILOT PLANT

Executive Summary

The U.S. Department of Energy (DOE) Office of Enterprise Assessments (EA) conducted an independent assessment evaluating whether the Carlsbad Field Office (CBFO), Salado Isolation Mining Contractors, LLC (SIMCO), the recently established Waste Isolation Pilot Plant (WIPP) management and operating (M&O) contractor, and Nuclear Waste Partnership, LLC (NWP), the previous M&O contractor until February 2023, established and validated their emergency preparedness capabilities as required by DOE Order 151.1D, *Comprehensive Emergency Management System*. The assessment, conducted from June through July 2023, evaluated data from October 1, 2017, to September 30, 2022 [fiscal year (FY) 2018 to FY 2022]. The assessment was performed prior to the WIPP October exercise assessment at the request of CBFO. Specifically, the site exercise program was evaluated to determine whether Federal and contractor organizations validated emergency preparedness capabilities to ensure that the site can respond effectively and efficiently to all operational emergencies with appropriate response measures to protect workers, responders, and the public.

EA identified the following strengths:

- NWP and SIMCO used emergency planning hazards assessment (EPHA) results to identify and define personnel, resources, facilities, and systems-related capabilities in the WIPP emergency planning documents.
- CBFO and SIMCO staff an emergency response organization consisting of personnel with the skills and disciplines necessary for mitigating emergency incidents.

EA also identified several weaknesses in the WIPP emergency management program, including the following three findings that warrant a high level of attention from CBFO management:

- CBFO did not ensure that NWP conducted an exercise that involved a high-consequence scenario, involved multiple response elements, and resulted in offsite effects during the five-year period to validate critical response capabilities needed to respond effectively to unmitigated bounding incidents. (Finding)
- CBFO and NWP did not provide information from the EPHA to appropriate county and state agencies or adequately plan for offsite radiological monitoring support to local and state governments for General Emergencies involving radiological material releases. (Finding)
- During the five-year period evaluated, CBFO did not ensure that NWP validated 10 emergency response organization, facility and system, and offsite interface emergency response capabilities needed to respond to hazards identified in the EPHA. (Finding)

In summary, CBFO and SIMCO adequately staffed the emergency response organization and maintained many site emergency preparedness capabilities. However, CBFO did not ensure that NWP conducted an exercise that involved a high-consequence scenario. Consequently, CBFO and NWP did not validate critical response capabilities. Importantly, CBFO and NWP did not provide information to local agencies or adequately plan for offsite radiological monitoring support for General Emergencies involving radiological material releases. Lastly, during the five-year period evaluated, CBFO did not ensure that NWP validated 10 emergency response organization, facility and system, and necessary offsite interface emergency response capabilities. Until the concerns identified in this report are addressed or effective mitigations are put in place, CBFO and SIMCO cannot ensure an effective and efficient response to all-hazard incidents and events.

INDEPENDENT ASSESSMENT OF EMERGENCY PREPAREDNESS CAPABILITIES AT THE WASTE ISOLATION PILOT PLANT

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) Office of Emergency Management Assessments, within the independent Office of Enterprise Assessments (EA), assessed the establishment and validation of emergency preparedness capabilities at the Waste Isolation Pilot Plant (WIPP). This assessment is part of a targeted review of emergency preparedness for high-hazard facilities within DOE. This targeted review, conducted from June through July 2023, evaluated the processes for identifying and maintaining emergency response capabilities in a state of readiness to protect the health and safety of workers, responders, and the public for any incident, whether natural or human-caused, that requires response action beyond normal operations.

The scope of the assessment was in accordance with the *Plan for the Independent Assessment of Emergency Preparedness Capabilities at the Waste Isolation Pilot Plant, March 2023*, which evaluated the site exercise program to assess whether the Carlsbad Field Office (CBFO) and the management and operating (M&O) contractor validated the emergency response capabilities derived from the CBFOapproved emergency planning hazards assessment (EPHA). DOE Order 151.1D, *Comprehensive Emergency Management System*, requires field offices to review and approve all EPHAs. DOE Order 151.1D also identifies the functional emergency response requirements for DOE operations. These requirements include developing an integrated and comprehensive emergency management system to ensure that sites can respond effectively and efficiently to all operational emergencies (OEs) so that appropriate response measures are taken to protect workers, responders, and the public.

In February 2023, Salado Isolation Mining Contractors, LLC (SIMCO) became the WIPP site M&O contractor and is currently responsible for developing and implementing the overall emergency management program. Nuclear Waste Partnership, LLC (NWP) was the previous M&O contractor and was responsible for validating the WIPP capabilities during the five-year period reviewed in this assessment. M&O contractors are required to determine the necessary site emergency response capabilities based on site-specific attributes, including types and forms of hazardous materials (HAZMAT), demographics, and geography. DOE Order 151.1D requires site contractors to prepare for incidents at the upper end of the potential consequence spectrum and plan for the protection of personnel, mitigation of potential HAZMAT releases, and establishment of appropriate short-term recovery actions.

In addition, emergency management oversight requirements are contained in DOE Order 151.1D and DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*. DOE Order 151.1D establishes DOE's emergency management program and assigns responsibilities at the field element level to ensure implementation of emergency management policy and requirements. DOE Order 226.1B provides requirements and directions for implementing DOE oversight policy. Specifically, DOE Order 226.1B requires field elements to perform effective oversight and place high priority on oversight of high-consequence activities.

Additionally, in accordance with DOE Order 151.1D, the M&O contractors are required to plan how to acquire response capabilities, when necessary, from external sources, including surrounding communities, state authorities, Federal agencies, and offsite DOE and national assets. Some response capabilities deemed necessary for both low-probability and severe incidents would be a financial burden to maintain onsite or could be unavailable when such an incident occurs. Accordingly, preparation for such an

incident requires establishing agreements with offsite entities that enable integration of offsite capabilities into the WIPP emergency response.

2.0 METHODOLOGY

The DOE independent oversight program is described in and governed by DOE Order 227.1A, *Independent Oversight Program*, which EA implements through a comprehensive set of internal protocols, operating practices, assessment guides, and process guides. This report uses the terms "best practices, deficiencies, findings, and opportunities for improvement (OFIs)," as defined in the order.

As identified in the assessment plan, certain aspects of EA Criteria and Review Approach Document 33-09, *DOE O 151.1D Emergency Management Program*, provided a focused set of assessment objectives, criteria, and approaches. This assessment evaluated the M&O contractors' identification of response capabilities and the implementation of DOE Order 151.1D requirements to validate response capabilities over a five-year period. EA used M&O-documented evaluations of performance demonstrations conducted in the period from fiscal year (FY) 2018 through FY 2022 (October 1, 2017, to September 30, 2022). Importantly, NWP was the responsible M&O contractor for the performance demonstrations used to validate capabilities during the assessment period. The assessment scope was limited to the site-specific emergency planning and documented performance demonstrations over the period and was not intended to represent a full programmatic evaluation of the site's emergency management program. The assessment activities were mostly conducted remotely but included an onsite data collection and validation visit.

This assessment evaluated whether CBFO and NWP established, and then validated, the WIPP emergency response capabilities using scripted, scenario-driven, operations-based OE exercises designed to assess, evaluate, and improve performance in prevention, protection, mitigation, response, and recovery capabilities in a risk-free environment consistent with DOE requirements. In addition, current CBFO and SIMCO capabilities were assessed for readiness, including adequacy of staffing levels. Operations-based exercises test and validate policies, plans, procedures, training, equipment, and interagency agreements by initiating response to simulated, realistic emergency situations/conditions in a manner that, as nearly as possible, replicates an integrated emergency response to an actual event. DOE operations-based exercises include functional exercises, full-scale exercises, and full-participation exercises. In addition, the M&O contractor may credit an actual emergency response as an operations-based exercise by providing a documented critique and an emergency response after-action report.

EA examined key documents, including the EPHA, exercise after-action reports, exercise packages, plans, procedures, manuals, and analyses. EA also conducted interviews with key personnel responsible for developing and executing the emergency management program. The members of the assessment team, the Quality Review Board, and the management responsible for this assessment are listed in appendix A.

There were no previous findings scheduled for follow-up during this assessment.

3.0 RESULTS

CBFO and NWP developed DOE/WIPP-08-3378, Revision 7, *Waste Isolation Pilot Plant Emergency Planning Hazards Assessment*, which provides the technical basis for emergency planning and preparedness. NWP and SIMCO used EPHA results to identify and define emergency planning, personnel, resources, facilities, and systems related capabilities in DOE/WIPP-17-3573, *Waste Isolation*

Pilot Plant Emergency Plan, and WP 12-FP.23, Revision 2, *WIPP Baseline Needs Assessment Document* (BNA). Importantly, part of the WIPP emergency response organization (ERO) is a composite structure consisting of an integrated line and staff organization that responds to all emergency incidents within the WIPP site boundary. In addition, the roles of local, state, and Federal agencies and organizations responsible for supplementing onsite response capabilities are documented in formal assistance agreements with individual response organizations and agencies.

NWP appropriately conducted an annual exercise each year during the five-year period, as required. In addition, NWP conducted 33 functional exercises involving limited portions of the ERO. The postulated incidents and scenarios included the HAZMAT present at the site. Additionally, two exercises used natural phenomena (tornado and earthquake) as the severe event initiators, and one exercise included participation by local, state, and Federal organizations. Furthermore, NWP conducted an exercise with a postulated incident involving a malevolent act, requiring an integrated ERO response with Federal Bureau of Investigation (FBI) participation. During the five-year period, NWP evaluated its responses to three actual site incidents. This assessment credited these incidents because NWP categorized them as an OE, implemented the WIPP emergency plan, and documented each incident's critique and responses in after-action reports, as required by DOE Order 151.1D.

Section 3.1 discusses the response capabilities determination. Sections 3.2 through 3.4 discuss response capabilities specific to ERO cadres and teams, response facilities and systems, and offsite response interfaces, respectively. WIPP has 11 unique site teams, 9 primary or alternate response facilities and systems, and 17 offsite response interfaces.

3.1 **Response Capabilities Determination**

This portion of the assessment evaluated whether CBFO and NWP have integrated the analysis of severe events performed as part of the documented safety analysis into emergency planning. For Defense Nuclear Facilities, such as WIPP, this must include potential events, ranging from low-consequence, high-probability events to high-consequence, low-probability events, to ensure that a comprehensive picture of the types of events and the range of associated consequences that could occur at a facility is captured. In addition, the EPHA must integrate severe event guidance consistent with DOE Guide 421.1-2, *Implementation Guide for Use in Developing Documented Safety Analysis to meet Subpart B of 10 CFR 830*; DOE-STD-3009-2014, *Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*; and DOE-STD-1189-2016, *Integration of Safety into the Design Process*, or their updates.

CBFO and NWP developed and maintained an EPHA that provides the technical basis for emergency planning and preparedness. NWP used EPHA results to adequately identify and define personnel, resources, facilities, and systems related capabilities in the WIPP emergency plan and BNA. The WIPP EPHA process appropriately postulated events covering the full range of initiators and resulting in a full range of severity levels. The considered initiating events and mechanisms included the traditionally defined operational accidents as well as natural phenomena events, external events, and malevolent acts. Design basis accidents, often referred to as operational accident events, and beyond design basis accidents were assessed during the facility safety analysis process to establish process and administrative controls for management risk. In addition to the safety analysis accident determinations, emergency management must conduct additional analysis to cover the full range of OEs for which emergency planning is required by DOE Order 151.1D. The WIPP EPHA identified transuranic (TRU) mixed waste as the primary emergency planning concern characterized as plutonium-239 equivalent curies for simplified analytical purposes. The EPHA's unmitigated bounding incident documents a potential for radiological consequences above protective action criteria (PAC) for 9.3 miles and above the threshold to early lethality of 0.4 miles from the release point. In addition, the distance that exceeds EPA ingestion pathway deposition criteria could exceed 25 miles.

CBFO and NWP appropriately identified response capabilities in the WIPP emergency plan to address the bounding incident and other less consequential incidents. However, out of the 38 exercises used for validation of capabilities, CBFO did not ensure that NWP conducted an exercise that involved a high-consequence scenario, involved multiple response elements, and resulted in offsite effects during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.b. (See **Finding F-CBFO-1**, **OFI-CBFO-1**, and **OFI-CBFO-2**.) Consequently, CBFO and NWP did not validate critical response capabilities needed to effectively respond to unmitigated bounding incidents, as discussed further in sections 3.2 through 3.4. Furthermore, NWP did not effectively demonstrate associated response planning for the following:

- Land Withdrawal Area (LWA) access control, personnel accountability sweep, and implementation of 10-minute onsite protective action (PA) notification. The WIPP 35-acre property protection area is centrally located within the 10,240-acre LWA multiuse area.
- LWA field monitoring preplanning, implementation, and integration with consequence assessment.
- Ingestion pathway preplanning, implementation, and integration with consequence assessment and offsite protective action recommendation (PAR) decision making.
- Radiological monitoring for offsite areas beyond the LWA/emergency planning zone (EPZ) that used NNSA Radiological Assistance Program (RAP) and the state of New Mexico capabilities.
- Coordination with NNSA Radiation Emergency Assistance Center/Training Site (REAC/TS) for potential TRU uptakes.
- Planning and coordination with Eddy County emergency management, Lea County emergency management, and the New Mexico Department of Homeland Security and Emergency Management (NMDHSEM) for high-consequence scenarios involving multiple response elements that result in offsite effects, including unmitigated bounding incident distances at which PAC would be exceeded at specific offsite receptors.

EA also identified two related concerns pertaining to emergency planning products derived from or used in applying the EPHA results. These concerns include the designation of the site boundary and determination of the EPZ. In addition, CBFO and NWP have not provided EPHA information to appropriate county and state agencies for use in offsite PA planning. In 2019, CBFO and NWP moved the site boundary to coincide with the LWA, increasing the site boundary distance from 0.19 miles to 1.8 miles and permitting the LWA to be treated as onsite for classification, notification, and PA decision making. Typically, the perimeter enclosing the site where DOE has access control authority and the responsibility for implementing PAs is designated as the site boundary. If the public can gain unescorted access to areas of the DOE site, such as public highways or the LWA, those areas are considered as offsite for purposes of emergency class definition, unless the site M&O contractor has the capability to evacuate the area and establish access control within about one hour of any emergency declaration. This capability has not been validated at WIPP since the boundary was changed in 2019. In addition, the number of General Emergencies was reduced from 47 to 9, mostly based on the site boundary change. Furthermore, NWP did not demonstrate the capability to notify personnel in the LWA of PAs within the required ten-minute period.

The second concern involved decreasing the EPZ, identified by CBFO and NWP as a radius from the center of the WIPP site, to coincide with the increased site boundary and LWA boundary, which raises the concern as to whether the current WIPP EPZ determination adequately supports the local authorities in planning and preparedness activities to protect offsite populations. The WIPP EPZ was changed in 2020 to coincide with the site boundary and LWA boundary, eliminating the need for CBFO and its

M&O contractors to plan for release conditions and PAs beyond the WIPP site boundary. This change followed several other changes to the EPZ in recent years. In 2015, the EPZ was enlarged from 0.62 miles to 5.28 miles. Then in 2016, it was reduced from 5.28 miles to 4.04 miles. In 2020, it was further reduced from 4.04 miles to 1.8 miles to coincide with the LWA/site boundary. Consequently, CBFO and NWP have not planned emergency response beyond the WIPP site boundary, contrary to the EPHA consequence determinations for an unmitigated bounding incident. Furthermore, the site EPZ is only useful if significant planning and preparedness measures are in place to support the local and state authorities in executing PARs that protect the public. Based on DOE PA criteria, EPHA results indicate a need for an EPZ that is larger than the site boundary. The technical basis for the WIPP EPZ determinations warrants additional EA review, as discussed in section 8.

Lastly, CBFO and NWP did not provide information from EPHA analyses to the appropriate county and state agencies on EPHA scenario distances at which PAC would be exceeded and plume arrival times at specific offsite receptors, preventing offsite organizations from making informed decisions regarding the appropriate level of preparedness and response. SIMCO was made aware of this concern and is currently revising the EPHA for CBFO approval. In addition, CBFO and NWP did not adequately plan for offsite radiological monitoring support to local and state governments for General Emergencies involving radiological material releases as required by DOE Order 151.1D, attachment 4, paragraph 7. (See **Finding F-CBFO-2** and **OFI-CBFO-2**.) Consequently, CBFO and NWP have not performed adequate planning to establish and maintain effective interfaces with offsite elected, technical, law enforcement, and emergency services officials to ensure that necessary information and concerns are addressed prior to a significant radiological emergency.

Response Capabilities Determination Conclusions

CBFO and NWP developed an EPHA that provides the technical basis for emergency planning and preparedness and was used to adequately identify personnel, resources, facilities, and systems related capabilities in the WIPP emergency plan and the BNA for responding to WIPP HAZMAT incidents. However, none of the 38 WIPP exercises used for validating capabilities during the assessed period validated the response to a postulated incident that involved a high-consequence scenario, involved multiple response elements, and resulted in offsite effects, as required. In addition, CBFO and NWP did not provide EPHA information to appropriate county and state agencies for use in offsite PA planning. Consequently, CBFO and NWP did not validate critical response capabilities needed to respond effectively to an unmitigated bounding incident. Two related concerns were also identified pertaining to emergency planning products derived from or used in the EPHA, consisting of the designation of the site boundary and determination of the EPZ. EA will further review these concerns during the next emergency management assessment, currently scheduled for October 2023.

3.2 Emergency Response Organization

This portion of the assessment evaluated whether CBFO and NWP established and validated the WIPP ERO structure and its emergency response capabilities, as required by DOE Order 151.1D. In accordance with the order, an ERO is required to consist of personnel with capabilities and resources based on the all-hazards planning basis. These capabilities and resources must be readily available so that the emergency management plan can be implemented for initial and ongoing emergency response. The site is required to designate and train a primary and at least one alternate for each ERO position, excluding first responders in the field. A site must also establish an effective first responder capability to mitigate all emergencies, including emergency medical, fire, HAZMAT, and applicable rescue emergencies as derived through the BNA, hazard survey, and threat and hazard identification risk assessment. This portion of the assessment also evaluated current ERO staffing levels and capabilities for CBFO and SIMCO.

Fire Department

SIMCO has adequately established and maintains fire department (FD) capabilities. SIMCO provides the following four emergency critical response capabilities:

- Emergency medical services (EMS) at the basic life support level with automated external defibrillator capability for personnel with or without contamination or injury
- Structural fire suppression and wildland fire fighting
- HAZMAT response
- Technical rescue, including high/low angle rescue, vehicle extrication, confined space rescue, structural collapse rescue, trench rescue, and tower rescue.

SIMCO has organized the FD into four shifts with an officer and firefighters (also qualified as EMS). Current shift staffing for the WIPP FD is based on responding to the scenario as prescribed in DOE-STD-1066-2023, *Fire Protection*. If the WIPP FD drops below planned shift staffing levels, a combination of onsite and offsite emergency services response organizations is relied on through memorandums of understanding (MOUs). NWP validated the FD response capabilities in 15 exercises and 3 actual incidents during the five-year period.

Protective Force

SIMCO provides site and facility access control and protection of site assets. Agreements are in place with Federal and state authorities to provide additional personnel, equipment, and capabilities, if needed. The protective force (PF) response capabilities supporting the incident commander (IC) were validated by NWP in nine exercises and three actual incidents during the five-year period. However, CBFO did not ensure that NWP validated the closure, sweep, and evacuation of the onsite public access areas capability during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured the timely PAs for populations within the LWA during a WIPP bounding incident.

Incident Commanders

SIMCO has adequately established and maintains command and control for an onsite incident scene, consistent with the National Incident Management System Incident Command System. The initial assignment of the IC role depends on the nature of the incident. For medical, fire, wildland fire, and HAZMAT incidents, FD becomes the IC. For security incidents and active threats, PF assumes the role of IC until no personnel threat remains. As incidents warrant, command and control of the incident scene may transition to a unified command. NWP validated the FD IC response capabilities in 14 exercises and 3 actual incidents, and the PF IC response capabilities were validated in one exercise.

Central Monitoring Room Staff

SIMCO has adequately established and maintains the WIPP Central Monitoring Room (CMR) staff to receive reports of potential emergency conditions from the field. SIMCO continuously staffs the CMR to provide emergency notifications, FD dispatch, and area access. In addition, CMR responsibilities include notifying the PF and FD; providing PA notification to onsite personnel; categorizing and classifying emergencies; performing offsite notifications and issuing PARs; activating the ERO; and providing overall direction and coordination of the emergency response.

SIMCO has stationed a facility shift manager (FSM) in the CMR to manage and coordinate initial site response actions. Except for downgrading or terminating from incidents that cause activation of the ERO, the FSM has the authority of the Emergency Operations Center (EOC) crisis manager and CBFO Senior Federal Official (SFO), as appropriate, until ERO members staff these positions. NWP validated the CMR staff response capabilities in 19 exercises and 3 actual incidents during the five-year period. However, CBFO did not ensure that NWP validated the PA notification to onsite personnel within the expanded site boundary, outside the exclusion area of the LWA, during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured the timely PAs for populations within the LWA during a WIPP bounding incident.

Security Operations Center Staff

SIMCO has adequately established and maintains a security operations center (SOC) staff that provides direct support to PF members in the field when they are responding to a security-related or law enforcement incident and supports the FD IC for non-security related incidents. NWP validated the SOC staff response capabilities in three exercises during the five-year period.

Emergency Operations Center Staff

CBFO and SIMCO have adequately established and maintain an EOC staff organization that provides emergency management coordination, consequence assessment, field response operations coordination, notification and reporting, recovery planning, field monitoring operations, external coordination and offsite liaison capabilities, and emergency public information (EPI). SIMCO guides and supports emergency response efforts and resources used inside the WIPP boundary through EOC operations. The EOC staff operates from the Skeen-Whitlock Building located in Carlsbad, New Mexico, which is outside the WIPP EPZ. NWP validated the EOC staff response capabilities in 29 exercises and 3 actual incidents during the five-year period.

CBFO Emergency Oversight

A CBFO SFO is included as part of the ERO and provides the final authority to commit DOE and National Nuclear Security Administration (NNSA) resources [RAP, REAC/TS, National Atmospheric Release Advisory Center (NARAC)]. The SFO provides guidance, approves releases of EPI and official situation reports, and concurs on event termination. In addition, the SFO approves the declaration of continuity of operations events, if applicable, and approves requests for offsite support not covered by pre-existing agreements. Furthermore, the SFO supports requests for security actions (e.g., special deliberate rescue or assault procedures, critical negotiation demands, rules of engagement) if law enforcement (e.g., FBI) has not formally assumed responsibility for managing the incident. For safeguards and security emergencies, the IC is responsible for the tactical response, and the CBFO SFO is responsible for the overall coordination of the emergency response. CBFO staffs the SFO position from a pool of six personnel. NWP validated the CBFO SFO oversight response capabilities in 19 exercises and 3 actual incidents during the five-year period.

Emergency Public Information Staff

CBFO and SIMCO have adequately established and maintain an EPI staff that includes joint information center (JIC) staffing to disseminate information to the public during an emergency. The EPI staff provides resources for CBFO, contractors, and other stakeholders to coordinate the timely exchange of information among internal representatives and other external organizations involved in a response. In addition, the EPI staff advises and counsels the CBFO SFO and EOC crisis manager; drafts, secures

approval for, and distributes incident messages; responds to media and public inquiries; monitors and disseminates information through social media; and coordinates media interviews and briefings. NWP validated the EPI staff response capabilities in 13 exercises and 1 actual incident during the five-year period.

Occupational Health Services

SIMCO has adequately established and maintains an onsite occupational health services (OHS) team to staff the primary WIPP medical facility and provide on-scene support to the IC, when requested. The medical facility is located in the Safety and Emergency Services building, which is equipped to handle personnel with non-life-threatening injuries, illnesses, or exposures, with or without contamination. The onsite staffing includes occupational health nurses and nurse practitioners. All staff are REAC/TS trained. Staffing for the site emergency medical program ensures adequate coverage for all shifts. A licensed nurse at the advanced life support level is available onsite during regular working hours. In addition, WIPP FD emergency medical technicians (EMTs) provide all onsite emergency response medical care. EMTs onsite are licensed up to intermediate EMT level with some paramedic trained personnel. FD EMTs are also trained to handle contaminated patients and coordinate with RCTs to monitor patient contamination levels in accordance with DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*. The FD EMTs are available 24/7 and may support OHS during non-working hours. NWP validated OHS on-scene response capabilities in three exercises during the five-year period.

Radiological Control

SIMCO has adequately established and maintains a radiological emergency response team, typically consisting of two 2-person teams that provide 24/7 support to the IC (radiological contamination control, on-scene monitoring, and patient contamination monitoring) and onsite field monitoring. The response team draws its members from the radiological control department. SIMCO dispatches response teams to perform monitoring to determine safe evacuation routes and conduct onsite field monitoring within the LWA. In addition, response teams maintain close coordination with the EOC consequence assessment team to assess the immediate consequences of a radiological material release. Response teams can conduct radiological field monitoring operations off site when requested by offsite organizations and approved by the EOC.

NWP validated the radiological control response capabilities supporting the IC in 14 exercises and 3 actual incidents during the five-year period. However, CBFO did not ensure that NWP validated field monitoring preplanning, implementation, and integration with consequence assessment capability outside of the property protection area within the LWA during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured that an adequate capability exists to support the timely concurrent radiological monitoring to support the IC (radiological contamination control, on-scene monitoring, and patient contamination monitoring) and onsite field monitoring during a WIPP unmitigated bounding incident.

Mine Rescue Team

SIMCO has adequately established and maintains two mine rescue teams (MRTs), each of which consists of compliant staffing. The purpose of the MRT is to provide search, rescue, and recovery operations in the underground in accordance with 30 CFR 49, *Mine Rescue Teams*. The MRT may respond to offsite underground emergencies as requested in accordance with the MOUs with local mines, Intrepid Potash, Inc. and Mosaic Potash. Mine rescue cooperative MOUs have been agreed upon with these mines to

ensure that two teams are always available as specified in 30 CFR 49.2, *Availability of Mine Rescue Teams*, with travel time under two hours. Each MRT consists of personnel who are qualified, trained, and equipped to provide emergency mine rescue services. SIMCO stores and maintains all required mine rescue and safety equipment on site in a state of readiness. NWP validated the MRT response capabilities in two exercises during the five-year period.

Emergency Response Organization Conclusions

CBFO and SIMCO adequately established and maintained required emergency response capabilities associated with the ERO cadres and teams, as required by DOE Order 151.1D. In addition, during the five-year period, NWP validated most emergency response capabilities. Moreover, the M&O contractors derived from the EPHA an appropriate ERO consisting of requisite skills and disciplines for mitigating emergency incidents. However, CBFO did not ensure that NWP confirmed the readiness of the ERO cadres and teams to implement timely PAs for populations within the LWA and field monitoring preplanning, implementation, and integration with consequence assessment during the five-year period.

3.3 **Response Facilities and Systems**

This portion of the assessment evaluated whether CBFO and NWP established and validated emergency facilities and systems capabilities commensurate with the associated hazards and threats identified in the all-hazards planning basis. Also assessed were other important emergency response facilities and systems identified by CBFO and NWP. This portion of the assessment also evaluated whether SIMCO has maintained emergency facility and system capabilities.

Emergency Operations Center

SIMCO adequately maintains an EOC at the Skeen-Whitlock Building located in Carlsbad, New Mexico. Accessible on a 24-hour basis, the EOC is the primary facility for coordinating emergency response and mitigation activities with offsite state, local, and Federal agencies and organizations. The EOC is a dedicated facility with a command room and team rooms that are equipped with communications for connecting with fire, medical, and other response teams. The EOC has equipment and systems that allow the use of onsite and offsite meteorological data for consequence assessment of incidents with potential or actual HAZMAT involvement. In addition, the EOC has interface capability with the JIC for implementing EPI protocols and procedures. Basic functions performed in the EOC include conducting incident assessments, supporting field response, reviewing PAs, and coordinating offsite interfaces. Throughout the EOC, SIMCO maintains systems and equipment needed to support EOC activities, including an information management system for collecting and disseminating incident information; nonsecure and secure communication equipment with multiple primary and backup communications capabilities; and mapping capabilities. If the EOC is unavailable for use during a WIPP emergency event, the ERO is prepared to respond virtually, or a combination of in-person and virtually, enabled by remote access to WebEOC[®]. NWP validated the EOC capability in 29 exercises and 3 actual incidents during the five-year period.

Central Monitoring Room

SIMCO adequately maintains a CMR that provides a dedicated facility located onsite in the Support Building and serves as the coordination point for site activities and communications between the surface and underground facilities. SIMCO continuously staffs the CMR to provide monitoring, emergency, and dispatch functions. The CMR contains instrumentation and equipment for reading underground and surface operations parameters, including radiation monitors and alarms. The CMR also has the capability of controlling some plant functions. Notifications to workers and onsite and offsite responders are made from the CMR. Numerous systems provide access to site meteorological data, multiple communications capabilities, and geographical information system computers. NWP validated the CMR capability in 19 exercises and 3 actual incidents during the five-year period.

Alternate Central Monitoring Room

SIMCO adequately maintains an alternate CMR in a dedicated area on site within the SOC, located in the Guard and Security Building. Capabilities at the alternate location are limited and include access to landline telephones, mine pager phones, and a central monitoring system access. However, CBFO did not ensure that NWP validated the alternate CMR capability during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured that vital monitoring and communication systems required to protect the health and safety of personnel will be effective during an emergency incident that requires the use of the alternate CMR.

Joint Information Center

CBFO and SIMCO adequately maintain a JIC to disseminate EPI. The JIC is a non-dedicated facility located at the Skeen-Whitlock Building in Carlsbad, New Mexico, which is outside the WIPP EPZ. SIMCO maintains equipment and systems to support EPI activities that include public inquiry, media inquiry, media monitoring, media support services, and management and administrative activities. NWP validated the JIC capability in 13 exercises and 1 actual incident during the five-year period.

WIPP Medical Facility

SIMCO adequately maintains a medical facility located at WIPP in the Safety and Emergency Services building. This dedicated facility, staffed by the occupational health services team, responds to non-life-threatening injuries and occupational-related injuries, illnesses, and exposures. Chelation therapy treatment for personnel who are determined to have TRU uptake can be performed at the onsite medical facility and within each onsite ambulance. The occupational medical director is responsible for the OHS medical protocols used at WIPP. However, CBFO did not ensure that NWP validated the medical facility capability during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3**, **OFI-CBFO-3**, and **OFI-CBFO-4**.) Consequently, CBFO and SIMCO have not ensured the effective medical treatment of workers during an emergency response that requires the use of the medical facility.

Security Operations Center

SIMCO adequately maintains an SOC in the Guard and Security Building, which is a dedicated facility to monitor, process, validate, and respond to incidents occurring at WIPP. NWP validated the SOC capability in three exercises during the five-year period.

Personnel Decontamination

SIMCO adequately maintains a personnel decontamination trailer available onsite with hot and cold running water, including decontamination equipment such as towels, soap, shampoo, modesty garments, gloves, bags, etc. NWP validated the personnel decontamination capability in one exercise during the five-year period.

Emergency Information System

SIMCO adequately maintains WebEOC as the primary information management system to collect and disseminate information during an emergency. WebEOC is a web-based emergency management system that provides access to real-time emergency incident information shared simultaneously throughout the ERO during the response and recovery phases of an emergency to ensure a common operating picture. SIMCO has connected workstations in the EOC, CMR, JIC, and SOC, and other external agencies, using previously established and approved information technology protocols, as needed and with permission granted by CBFO during an emergency. NWP validated the emergency information system capability in 29 exercises and 3 actual incidents during the five-year period.

Emergency Notification System

SIMCO adequately maintains the emergency notification system as its primary mass notification system for notifying and keeping personnel informed about emergencies at the WIPP site or offsite facilities. The emergency notification system can send notifications to multiple devices, including work phones, cell phones, home phones, and pagers. In addition, the CMR uses the emergency notification system to activate ERO teams, such as the EOC and JIC. NWP validated the emergency information system capability in 12 exercises and 3 actual incidents during the five-year period.

Response Facilities and Systems Conclusions

CBFO and SIMCO adequately maintain capabilities for emergency response facilities and key emergency management systems. In addition, NWP validated most emergency facilities and systems capabilities during the five-year period. However, CBFO did not ensure that NWP validated its alternate CMR and medical facility response capabilities. Consequently, CBFO has not ensured the readiness of the alternate CMR to provide key monitoring and communication functions during an incident that requires the use of the alternate CMR. Likewise, the readiness of the medical facility to provide treatment of injured workers during an emergency response was not confirmed during OE conditions at the site.

3.4 Offsite Response Interface Capabilities

This portion of the assessment evaluated whether CBFO and NWP established, maintained, and validated coordination and response capabilities with the local, state, and Federal organizations that are responsible for emergency response or that may be used to supplement response capabilities based on hazards identified in the all-hazards planning basis, as required by DOE Order 151.1D. This portion of the assessment also evaluated current offsite interface capabilities with local, state, and Federal organizations.

DOE Headquarters Watch Office

CBFO and SIMCO adequately maintain an interface capability with the DOE Headquarters notification point of contact located in the Headquarters EOC. Upon receiving an event notification, the watch office duty officer routinely notifies the appropriate personnel responsible for activating a DOE or NNSA emergency management team. NWP validated the DOE Headquarters Watch Office interface capability in five exercises and three actual incidents during the five-year period.

DOE Headquarters Emergency Operations Center

CBFO and SIMCO adequately maintain interface capabilities with the DOE Headquarters EOC, located in the Forrestal Building in Washington, D.C. A backup EOC is in Germantown, Maryland. Both facilities can communicate with WIPP via telephone, the emergency communications network, facsimile,

and classified/unclassified video teleconferencing. CBFO, SIMCO, and Headquarters use performance criteria consisting of sending initial and follow-on notifications and maintaining a telephone liaison to assess the adequacy of the interface. NWP requested DOE Headquarters EOC participation in one exercise during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a.

National Atmospheric Release Advisory Center

SIMCO adequately maintains interface capabilities with the NNSA NARAC for assessing HAZMAT released into the atmosphere. DOE Order 151.1D requires that facilities maintain the capability to use NARAC as part of near real-time consequence assessment activities. NARAC's mission is to provide timely and accurate real-time assessment advisories to emergency managers for rapid decision making during an emergency response involving a nuclear, radiological, or chemical atmospheric release. NWP validated the NARAC interface capability in three exercises and three actual incidents during the five-year period.

Radiological Assistance Program

CBFO and SIMCO maintain adequate interface capabilities with the NNSA RAP, which provides a first response resource in assessing an emergency incident and advising decision makers on further steps to evaluate and minimize the hazards of a radiological incident. RAP provides resources (e.g., trained personnel and equipment) to monitor radiological hazards. NNSA implements RAP regionally, coordinating between the emergency response elements of the state, local, and Federal agencies. Additionally, the *DOE Region 4 RAP Response Plan* accurately explains radiological monitoring and assessment services available from the Region 4 RAP teams (assembled from personnel located at WIPP, Los Alamos National Laboratory, Sandia National Laboratories, and Pantex Plant) that support Arizona, New Mexico, Texas, Oklahoma, and Kansas.

DOE Order 151.1D requires that facilities with General Emergencies involving radiological material releases ensure adequate planning for offsite radiological monitoring support to local and state governments. SIMCO and the State of New Mexico do not have offsite field monitoring teams and rely on the integration with other potential monitoring teams, which may include the New Mexico National Guard 64th Civil Support Team, the DOE Region 4 RAP, EPA Region VI, or other Federal agencies, to provide the primary offsite monitoring capability for a WIPP radiological incident. Importantly, SIMCO has documented nine radiological emergency action level scenarios that result in a General Emergency declaration that could require RAP to provide monitoring for offsite consequences. However, CBFO did not ensure that NWP validated the RAP interface capability during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See Finding F-CBFO-3 and OFI-CBFO-3.) Consequently, CBFO and SIMCO cannot currently ensure the planning of offsite field monitoring support for confirming plume boundaries and providing radiological monitoring support to local and state governments.

Radiation Emergency Assistance Center/Training Site

SIMCO maintains adequate interface capabilities with the NNSA REAC/TS. DOE Order 151.1D requires that facilities conduct planning for medical treatment associated with incidents identified in the all-hazards planning basis. REAC/TS provides 24/7 emergency response and subject matter expertise for advice and consultation on medical management of radiation incidents for NNSA. The Oak Ridge Institute for Science and Education operates REAC/TS, located in Oak Ridge, Tennessee, which provides a multipurpose facility for handling victims of radiation emergencies and other types of physical injuries. Importantly, SIMCO has documented emergency scenarios that could involve inhalation of TRU material by workers, responders, or the public that would potentially require interaction with REAC/TS during a

response. However, CBFO did not ensure that NWP validated the REAC/TS interface capability during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and NWP did not ensure an adequate interface with REAC/TS for timely treatment of affected workers, responders, and the public during radiation incidents.

Federal Bureau of Investigation

CBFO adequately maintains interface capabilities with the FBI to respond to any incident at WIPP involving terrorists or other security incidents. An initial FBI response to WIPP includes personnel from the Roswell, New Mexico resident agency office. The FBI may deploy special agents to support response activities, investigations, and intelligence sharing at the EOC and incident command post. The FBI may assume IC responsibilities or integrate into the existing unified command structure during security or law enforcement emergencies. NWP validated the FBI interface capability in one exercise during the five-year period.

Bureau of Land Management

CBFO adequately maintains interface capabilities with the Bureau of Land Management (BLM) for wildland fire response at WIPP, in accordance with the MOU between CBFO and the U.S. Department of the Interior, BLM, Roswell Office. The MOU provides for timely assistance when a wildland fire response requires resources beyond the current WIPP FD capabilities. The FD IC determines additional resource needs and BLM responders become part of a unified command. NWP validated the BLM interface capability in one exercise during the five-year period.

New Mexico Department of Homeland Security and Emergency Management

CBFO adequately maintains interface capabilities with the NMDHSEM, which has authority for statewide emergency preparedness, response, recovery, and mitigation of emergencies. An MOU with the State of New Mexico (general agreement) provides support from the Department of Public Safety and New Mexico Army National Guard when requested by the IC or EOC emergency director. In addition, initial notifications and the interface with the state are coordinated by the CMR, on-duty FSM, or the WIPP EOC through the NMDHSEM state duty officer. The WIPP EOC coordinates with the NMDHSEM for county, state, Federal, or non-governmental agency mutual aid requests, including response and recovery capabilities.

NWP validated the NMDHSEM duty officer notification interface capability in five exercises and three actual incidents during the five-year period. Although NWP did not validate the NMDHSEM EOC interface capability during the five-year period, NMDHSEM was formally requested but declined to participate with its EOC in the 2022 full participation exercise.

Carlsbad Medical Center

CBFO adequately maintains interface capabilities with Carlsbad Medical Center (CMC) for the acceptance and treatment of radiologically, chemically, or biologically contaminated or potentially contaminated-injured patients from WIPP. CMC is the closest major hospital in the WIPP area and is the primary hospital that treats persons injured in a WIPP incident. For radiological incidents, SIMCO provides radiological control technicians and, if requested, REAC/TS-trained OHS personnel to be present at the hospital to assist as needed. SIMCO can also provide an industrial hygienist to be present at the hospital to assist as needed for chemical incidents. NWP validated the CMC interface capability in three exercises during the five-year period.

Covenant Health Hobbs Hospital

CBFO adequately maintains interface capabilities with Covenant Health Hobbs Hospital (CHHH) for the transport, acceptance, and treatment of radiologically, chemically, or biologically contaminated or potentially contaminated-injured patients from WIPP. For radiological incidents, SIMCO provides radiological control technicians and, if requested, REAC/TS-trained OHS personnel to be present at the hospital to assist as needed. SIMCO can also provide an industrial hygienist to be present at the hospital to assist as needed for chemical incidents. NWP validated the CHHH interface capability in two exercises during the five-year period.

Offsite Medical Centers and Hospitals

CBFO has signed MOUs with regional hospitals to receive and medically treat chemically and radiologically contaminated-injured site personnel. CMC is the closest major hospital to WIPP and is the primary hospital that would treat injured personnel. If a mass-casualty incident occurs at WIPP, the CMC (a level 3 trauma center) coordinates with other hospitals to transfer and subsequently treat patients, depending on the type of injury and extent of contamination. In addition, although not a trauma center, CHHH, located in Hobbs, has agreed to mutual assistance and emergency support.

DOE Order 151.1D requires sites containing HAZMAT to document the process for transporting, accepting, and treating contaminated-injured personnel. In addition, the site must ensure implementing agreements, as may be appropriate, for emergency medical first responder organizations, medical receiving facilities, and emergency medical transport services, including all reasonable modes of transportation. All regional hospitals are accessible by ambulance and medical helicopter; the ground transportation time from WIPP to the closest hospital is approximately 45 minutes. CBFO has reciprocal MOUs with Eddy County, the City of Carlsbad, and the City of Hobbs for ambulance and EMS resources. Additionally, air ambulance service located in Carlsbad is potentially available for WIPP patient transport, depending on contamination type/level. TransAero air ambulance service is willing to accept contaminated patients; however, CBFO does not have a formal agreement for TransAero to provide this capability. (See **OFI-CBFO-5**.)

DOE Order 151.1D does not specifically address the need to have an agreement with a level 1 trauma center to receive and medically treat chemically and radiologically contaminated-injured personnel. Importantly, the nearest level 1 trauma centers are the University of New Mexico Hospital, located in Albuquerque, New Mexico, and the University Medical Center El Paso, located in El Paso, Texas, approximately 270 miles and 150 miles, respectively. (See **OFI-CBFO-5**.)

NWP validated the Carlsbad EMS/transport interface capability in one exercise and the Hobbs EMS/transport interface capability in two exercises during the five-year period. However, the Eddy EMS/transport interface capability, which is a volunteer function, was not validated by NWP during the five-year period. (See **OFI-CBFO-3**.)

Local Law Enforcement

CBFO and SIMCO maintain adequate interface capabilities with both the Sheriff of Eddy County and Sheriff of Lea County through individual MOUs for law enforcement to support the protection of special nuclear material and other national security assets, people, equipment, and property located at WIPP. Although, NWP did not validate the local law enforcement interface capability during the five-year period, Eddy and Lea County law enforcement was formally requested but declined to participate in the 2022 full participation exercise.

Lea County Emergency Management

CBFO and SIMCO maintain adequate interface capabilities with Lea County, New Mexico, per the reciprocal MOU for mutual assistance during emergencies. In addition, Lea County has capabilities to support fire and rescue, EMS, HAZMAT response, and emergency management. The Lea County notification interface capability was validated in four exercises and three actual incidents. However, CBFO did not ensure that NWP validated the Lea County interface capability that includes fire and rescue, EMS, HAZMAT, and emergency management during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured that an adequate capability exists to support the timely coordinated response with Lea County for high-consequence scenarios involving multiple response elements and resulting in offsite effects, including unmitigated bounding incidents.

City of Carlsbad

CBFO and SIMCO adequately maintain interface capabilities with the City of Carlsbad, New Mexico, per the reciprocal MOU for mutual assistance during emergencies. In addition, the city has capabilities to support fire and rescue, EMS, HAZMAT response, and emergency management. NWP validated the city of Carlsbad interface capability in one exercise during the five-year period.

City of Hobbs

CBFO and SIMCO adequately maintain interface capabilities with the City of Hobbs, New Mexico, per the reciprocal MOU for mutual assistance during emergencies. In addition, the city has capabilities to support fire and rescue, EMS, HAZMAT response, and emergency management. NWP validated the city of Hobbs interface capability in two exercises during the five-year period.

Eddy County Emergency Management

CBFO and SIMCO maintain adequate interface capabilities with Eddy County, New Mexico, per the reciprocal MOU for mutual firefighting assistance during emergencies. NWP validated the Eddy County notification interface capability in five exercises and three actual incidents and validated the Eddy County fire interface capability in one exercise during the five-year period. However, CBFO did not ensure that NWP validated the Eddy County EOC interface capabilities during the five-year period as required by DOE Order 151.1D, attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured that an adequate capability exists to support the timely coordinated response with Eddy County for high-consequence scenarios involving multiple response elements and resulting in offsite effects, including unmitigated bounding incident distances at which PAC would be exceeded at specific offsite receptors.

Offsite Mine Rescue Teams

CBFO and SIMCO maintain adequate mutual assistance agreements with offsite MRTs. Local mines, Intrepid Potash, Inc. and Mosaic Potash, may respond to WIPP underground emergencies, as requested through the MOUs. Mine rescue cooperative MOUs ensure that two teams are always available as specified in 30 CFR 49.2, with travel time within two hours. In addition, the White Marble Mine may request MRT support, but per the MOU (a non-reciprocal agreement), they do not have an MRT to support WIPP. All parties to the MOUs recognize the WIPP MRTs are maintained for the primary purpose of meeting the 30 CFR 49.2(a) requirements for the WIPP underground and periodically train, accordingly. However, CBFO did not ensure that NWP validated the Intrepid Potash, Inc. and Mosaic Potash offsite MRT interface capabilities during the five-year period as required by DOE Order 151.1D,

attachment 4, paragraph 15.a. (See **Finding F-CBFO-3** and **OFI-CBFO-3**.) Consequently, CBFO and SIMCO have not ensured the interface capability for effective mine rescue activities to protect the health and safety of underground workers.

Offsite Response Interface Capabilities Conclusions

CBFO and SIMCO adequately maintain offsite response interface capabilities with many organizations that are responsible for emergency response or that may be used to supplement response capabilities based on hazards identified in the all-hazards planning basis. Interrelationships with several local, state, and Federal organizations are appropriately prearranged and documented in formal plans, agreements, understandings, or other prearrangements for mutual assistance and describe emergency measures provided by non-WIPP entities. In addition, NWP validated many of these capabilities during the five-year period. However, CBFO did not ensure that NWP validated 6 of its 17 offsite response interface capabilities. Specifically, during the five-year period, CBFO did not ensure that NWP validated its interface with RAP, REAC/TS, and MRTs. Also, CBFO did not ensure that NWP validated its interface with Eddy and Lea County law enforcement and emergency management; and the NMDHSEM.

4.0 BEST PRACTICES

No best practices were identified during this assessment.

5.0 FINDINGS

Findings are deficiencies that warrant a high level of attention from management. If left uncorrected, findings could adversely affect the DOE mission, the environment, the safety or health of workers and the public, or national security. DOE line management and/or contractor organizations must develop and implement corrective action plans for findings. Cognizant DOE managers must use site- and program-specific issues management processes and systems developed in accordance with DOE Order 226.1 to manage the corrective actions and track them to completion.

Carlsbad Field Office

Finding F-CBFO-1: CBFO did not ensure that NWP conducted an exercise that involved a highconsequence scenario, involved multiple response elements, and resulted in offsite effects during the fiveyear period to validate critical response capabilities needed to respond effectively to unmitigated bounding incidents and effectively demonstrate associated response planning for the following (DOE Order 151.1D, att. 4, par. 15.b):

- LWA access control, sweep, and implementation of 10-minute onsite PA notification
- LWA field monitoring preplanning, implementation, and integration with consequence assessment
- Ingestion pathway preplanning, implementation, and integration with consequence assessment and offsite PAR decision making
- Radiological monitoring for offsite areas beyond the LWA/EPZ that used RAP and the state of New Mexico capabilities
- Coordination with REAC/TS for potential TRU uptakes

• Planning and coordination with Eddy County emergency management, Lea County emergency management, and the NMDHSEM for high-consequence scenarios involving multiple response elements that result in offsite effects, including unmitigated bounding incident distances at which PAC would be exceeded at specific offsite receptors.

Finding F-CBFO-2: CBFO did not ensure that NWP provided information from the EPHA to appropriate county and state agencies or adequately plan for offsite radiological monitoring support to local and state governments for General Emergencies involving radiological material releases. (DOE Order 151.1D, att. 4, par. 7)

Finding F-CBFO-3: During the five-year period, CBFO did not ensure that NWP validated the following 10 ERO, facility and system, and offsite interface emergency response capabilities needed to respond to hazards identified in the EPHA (DOE Order 151.1D, att. 4, par. 15.a):

- CBFO did not ensure that NWP validated the closure, sweep, and evacuation of the onsite public access areas capability. (DOE Order 151.1D, att. 4, par. 15.a)
- CBFO did not ensure that NWP validated the PA notification capability to onsite personnel within the LWA. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated LWA field monitoring preplanning, implementation, and integration with consequence assessment capability. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated the alternate CMR capability. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated the medical facility capability. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated the RAP interface capability. (DOE Order 151.1D, att. 4, pars. 7, 10, and 15.a.)
- CBFO did not ensure that NWP validated the REAC/TS interface capability. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated the Lea County interface capability that includes fire and rescue, EMS, HAZMAT, and emergency management. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated the Eddy County EOC interface capabilities. (DOE Order 151.1D, att. 4, par. 15.a.)
- CBFO did not ensure that NWP validated the Intrepid Potash, Inc. and Mosaic Potash offsite MRT interface capabilities. (DOE Order 151.1D, att. 4, par. 15.a.)

6.0 **DEFICIENCIES**

No deficiencies were identified during this assessment.

7.0 **OPPORTUNITIES FOR IMPROVEMENT**

EA identified the OFIs shown below to assist cognizant managers in improving programs and operations. While OFIs may identify potential solutions to findings and deficiencies identified in assessment reports, they may also address other conditions observed during the assessment process. These OFIs are offered

only as recommendations for line management consideration; they do not require formal resolution by management through a corrective action process and are not intended to be prescriptive or mandatory. Rather, they are suggestions that may assist site management in implementing best practices or provide potential solutions to issues identified during the assessment.

Carlsbad Field Office

OFI-CBFO-1: Consider ensuring that the WIPP response capabilities within the LWA are planned, resourced, and validated periodically, including implementation of timely PAs for populations within the LWA.

OFI-CBFO-2: Consider ensuring adequate offsite planning with Eddy County, Lea County, and the State of New Mexico by:

- Providing EPHA information to the counties and state
- Defining the rationale for the EPZ
- Obtaining the approval of the EPZ from the offsite agencies
- Developing offsite radiological material release planning for integrating with offsite organizations to include RAP, REAC/TS, implementation of PARs, and ingestion pathway actions.

OFI-CBFO-3: Consider ensuring that all WIPP emergency response and interface capabilities are appropriately documented and periodically validated by maintaining a rolling five-year matrix to monitor the validation of site-level, facility-level, and offsite response capabilities.

OFI-CBFO-4: Consider ensuring that the OHS medical facility response capabilities are planned, resourced, and validated periodically or redefine the medical facility for occupational health needs only and not an emergency response facility.

OFI-CBFO-5: Consider ensuring that the WIPP response capabilities for contaminated or contaminatedinjured personnel are appropriately planned, documented, and periodically validated by:

- Establishing MOUs with a level 1 trauma center to accept contaminated or contaminated-injured personnel
- Establishing an MOU with TransAero air ambulance service and ground ambulances to transport contaminated or contaminated-injured personnel.

8.0 ITEMS FOR FOLLOW-UP

During this assessment, EA identified two related concerns pertaining to emergency planning products derived from or used in the technical planning basis. These concerns include the designation of the site boundary and determination of the EPZ boundary. EA will further review these concerns during the next emergency management assessment, currently scheduled for October 2023.

Appendix A Supplemental Information

Dates of Assessment

Remote Assessment: June to July 2023 Onsite: July 11 through July 13, 2023

Office of Enterprise Assessments (EA) Management

John E. Dupuy, Director, Office of Enterprise Assessments William F. West, Deputy Director, Office of Enterprise Assessments Kevin G. Kilp, Director, Office of Environment, Safety and Health Assessments David A. Young, Deputy Director, Office of Environment, Safety and Health Assessments Thomas E. Sowinski, Director, Office of Nuclear Safety and Environmental Assessments Kimberly G. Nelson, Director, Office of Worker Safety and Health Assessments Jack E. Winston, Director, Office of Emergency Management Assessments Brent L. Jones, Director, Office of Nuclear Engineering and Safety Basis Assessments

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