Independent Assessment of the 2024 Full-scale Emergency Management Exercise at the Pantex Plant

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U.S. DEPARTMENT of ENERGY | Office of Enterprise Assessments

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Acronyms

CAT	Consequence Assessment Team
CRAD	Criteria and Review Approach Document
DOE	U.S. Department of Energy
EA	Office of Enterprise Assessments
EAL	Emergency Action Level
EMInS	Emergency Management Information System
ENF	Emergency Notification Form
EOC	Emergency Operations Center
EOS	Emergency Operations System
EPI	Emergency Public Information
ERO	Emergency Response Organization
ESDC	Emergency Services Dispatch Center
FD	Fire Department
FDST	Fire Department Support Team
IC	Incident Commander
ICP	Incident Command Post
IMT	Incident Management Team
JIC	Joint Information Center
LCO	Limiting Condition for Operation
MOU	Memorandum of Understanding
OC	Operations Center
OE	Operational Emergency
OFI	Opportunity for Improvement
PA	Protective Action
Pantex	Pantex Plant
PAR	Protective Action Recommendation
PFO	Pantex Field Office
PSS	Plant Shift Superintendent
PXD	PanTeXas Deterrence, LLC
TOC	Tactical Operations Center

INDEPENDENT ASSESSMENT OF THE 2024 FULL-SCALE EMERGENCY MANAGEMENT EXERCISE AT THE PANTEX PLANT

Executive Summary

The U.S. Department of Energy (DOE) Office of Enterprise Assessments (EA) conducted an independent assessment of the emergency management program during a full-scale exercise at the Pantex Plant from October to December 2024. This assessment evaluated the effectiveness of the management and operating contractor, PanTeXas Deterrence, LLC (PXD), and the Pantex Field Office (PFO) in managing and maintaining emergency response organization (ERO) performance via the November 6, 2024, full--scale emergency management exercise. This assessment was based on requirements documented in DOE Order 151.1D, *Comprehensive Emergency Management System*. EA assessed the performance of the ERO at key decision-making venues to determine whether PFO and PXD responded effectively to a simulated Operational Emergency and took appropriate response measures to protect workers, responders, and the public.

EA identified the following strengths:

- PXD has adequate emergency operations system capabilities to collect incident information at a centralized location and analyze the information by an ERO staffed with subject matter experts that are consistent with the National Incident Management System.
- The plant shift superintendent correctly performed prompt incident categorization during the exercise by declaring two Operational Emergencies.
- PXD promptly notified workers, the ERO, offsite agencies, and most field responders of emergency conditions.
- PXD appropriately issued protective actions to workers and first responders.
- PFO and PXD provided a well-organized and fully staffed joint information center that facilitated timely information to workers, external stakeholders, and the media.
- PXD designed a challenging full-scale exercise in accordance with its plans, procedures, and checklists that fully engaged ERO capabilities and resources.

EA also identified several weaknesses, including two findings, as summarized below:

- PXD did not demonstrate an effective emergency operations system that obtained and maintained situational awareness and disseminated a common operating picture among response components and external partners. (Finding)
- PXD did not provide accurate and complete initial and follow-up notifications to all appropriate stakeholders. (Finding)

In summary, PFO and PXD conducted a dynamic exercise that tested ERO capabilities in a real-time environment. The exercise further demonstrated that the PFO and PXD emergency management program is capable of adequately responding to high consequence and multifaceted accident scenarios. However, identified weaknesses related to situational awareness, common operating picture, and notifications to relevant stakeholders hindered some aspects of the emergency response. Until the concerns identified in this report are addressed or effective mitigations are put in place, there could be gaps in effective and timely response actions.

INDEPENDENT ASSESSMENT OF THE 2024 FULL-SCALE EMERGENCY MANAGEMENT EXERCISE AT THE PANTEX 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 a full-scale emergency management exercise at the Pantex Plant (Pantex). This assessment was conducted as part of an ongoing series of assessments of emergency management exercises and programs at DOE sites. Assessment activities were conducted from October to December 2024.

This assessment evaluated the effectiveness of the management and operating contractor, PanTeXas Deterrence, LLC (PXD), and the Pantex Field Office (PFO) programs in managing and maintaining emergency response organization (ERO) performance via the November 6, 2024, full-scale emergency management exercise. This assessment evaluated the performance of the ERO at key venues, including the incident command post (ICP), the operations center (OC), the emergency operations center (EOC), and the joint information center (JIC), with a focus on decision-making ERO positions, such as the incident commander (IC), plant shift superintendent (PSS), and EOC director. Issues identified during the exercise evaluations were further examined to determine possible causes, such as a lack of training or insufficient procedural guidance. This assessment was conducted in accordance with the *Plan for the Independent Assessment of the November 2024 Emergency Management Exercise at the Pantex Plant, October – December 2024*.

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, this assessment considered requirements documented in DOE Order 151.1D, *Comprehensive Emergency Management System*. EA used the following sections of EA CRAD 33-09, Revision 0, *DOE Order 151.1D Emergency Management Program*: section 4.3, *Emergency Response Organization*; section 4.4, *Emergency Operations System*; section 4.6, *Offsite Response Interface*; section 4.7, *Emergency Classification*; section 4.8, *Protective Actions*; section 4.9, *Consequence Assessment*; section 4.11, *Notifications and Communications*; section 4.12, *Emergency Public Information*; and section 4.15, *Exercises*.

EA examined key documents, such as the exercise package, exercise evaluation guides, emergency plans, checklists, procedures, and policies. EA also interviewed key personnel responsible for developing and executing the associated programs. EA observed the controller/evaluator pre-exercise brief, the exercise, and the post-exercise hotwashes and debrief activities, and walked down significant portions of the OC, EOC, JIC, and key exercise venues focusing on exercise response execution. 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 for follow-up during this assessment.

3.0 RESULTS

PXD designed and conducted a full-scale exercise to evaluate emergency response capabilities and multiple processes used by key onsite ERO groups. Accordingly, the exercise focused on the use of appropriate plans, policies, and procedures, as well as the actions of ERO members involved in management, direction, and command and control functions. PXD conducted the exercise in a realistic, real-time environment in response facilities that necessitated actions by on-scene responders and the site-level ERO with participation by offsite responders. The exercise scenario included two incident scenes. Scene 1 consisted of an unplanned explosion and fire involving high-explosive material at a Pantex production facility. Scene 2 consisted of a serious, offsite multi-vehicle accident on a public road, outside the entrance to the John C. Drummond Center, involving a Pantex fire department (FD) vehicle and a van carrying PXD personnel. The offsite vehicle accident occurred minutes after the explosion at the production facility. The Pantex ERO responded to both scenes and requested that the Panhandle FD and ambulance service respond to scene 2. PXD was not in command of scene 2 and provided minimal support to the responding offsite organizations. The PSS categorized the incident at scene 1 as an Operational Emergency (OE) not requiring further classification. In addition, the PSS declared a second OE based on an automatic mutual aid response that reduced the Pantex FD emergency medical response capability below the minimum level as defined in the FD baseline needs assessment. Once the EOC was staffed and fully operational, the PSS turned over incident management duties to the EOC director.

3.1 Emergency Operations System

This portion of the assessment determined whether the emergency operations system (EOS) provides centralized collection, validation, analysis, and coordination of information related to a Pantex incident response, and whether that information is used to obtain and maintain situational awareness and disseminate a common operating picture among response components to achieve a well-coordinated, well-understood, and effective response.

During the exercise, PXD had adequate EOS capabilities to collect incident information, to provide needed expertise for incident analysis from a centralized EOC, and to ensure that the EOS was consistent with the operational concepts of the National Incident Management System. In addition, the Pantex emergency plan and implementing documents direct the PXD EOS to support a three-tier emergency response structure (on-scene, site-level, and offsite including DOE Headquarters) for responding to OEs. The on-scene response (first tier) used an appropriate incident command system to mitigate the incident.

The second tier consists of emergency response functions managed by the Pantex EOC director, who directs the overall site response from the OC or the Pantex EOC. The PSS initially becomes the EOC director from the OC when an emergency is declared. The PSS implements the emergency plan and procedures, initially categorizes the incident and determines the proper emergency classification in accordance with emergency action levels (EALs), then issues protective actions (PAs), completes notifications, and activates the ERO. The PSS transfers command and control of the site response to senior managers who fill the roles of EOC director and emergency oversight manager, following completion of a formal status briefing with confirmation of minimal EOC staffing and declaration that the EOC is operational. The EOC continues to provide site-level support to the IC, including activation and deployment of site response assets to the scene, mutual aid requests, and technical support, such as site field monitoring.

The third tier of the response structure consists of offsite facilities, organizations, and functions, including DOE Headquarters and the JIC. During an emergency or emergency assistance situation, DOE Headquarters provides strategic direction for the overall Federal response, supports field response, and serves as the Federal point of contact for national-level coordination. In addition, offsite interface activities

include coordinating with the state and local governments, providing information to the public and media, and activating and deploying DOE-managed offsite assets (e.g., JIC and offsite monitoring teams).

During the exercise, PFO and PXD activated all three tiers of response, along with corresponding EOS capabilities used to obtain and maintain situational awareness and disseminate a common operating picture among response components. Overall, the emergency services dispatch center (ESDC), OC, EOC, tactical operations center (TOC), and JIC were fully staffed to provide appropriate strategic management, operational support, planning/intelligence, and logistics. However, contrary to DOE Order 151.1D, attachment 3, paragraphs 4.b and 11.b, PXD did not demonstrate an effective EOS that obtained and maintained situational awareness and disseminated a common operating picture among response components and external partners. (See **Finding F-PXD-1**.) Consequently, the ERO did not consistently have the necessary understanding of the incident to provide an effective response at all response venues. Specifically, EOS performance issues included:

- No discussions or situational reports occurred between the scene 1 IC and the PSS, contrary to the requirements of MNL-EM-352245, *Categorization and Classification Manual*. Consequently, the PSS/EOC director did not have all the necessary information to complete the offsite notification form and form PX-5521, *Operations Center Operational Emergency Checklist*.
- The PSS/EOC director was unaware that two transfers of incident command had occurred. The first transfer occurred between the protective force lieutenant and the Pantex FD captain in the field (scene 1), and the second transfer occurred between the FD captain and the FD assistant chief located in the TOC. No discussions or situational reports to the PSS/EOC director occurred before or after these transfers.
- Following transfer of incident command to the FD assistant chief, PXD established an incident management team (IMT) in the TOC. However, the PSS/EOC director did not request, nor did the IC provide, on-scene information, contrary to the requirements of MNL-EM-352245.
- Contrary to the requirements of PX-5521 and MNL-EM-352246, *Notifications and Communications Manual*, there were no bridge line calls between the IC and the PSS to provide a common operating picture.
- The conduct of the exercise resulted in an unplanned limiting condition for operation (LCO) that caused an exercise pause by all venues; however, exercise play resumed without establishing adequate situational awareness or verifying that the LCO conditions had been resolved (see section 3.8 for further discussion). Consequently, most venues resumed play at 0908 hours without realizing that the OC was still paused. When the PSS/EOC director resumed play at 0926 hours, he was unaware that several important response actions had occurred, including the transfer of incident command to the FD captain, recall of off-duty FD personnel, and an unsuccessful attempt by the FD captain to brief the PSS on incident scene activities.
- The TOC coordinator provided a briefing on incident scene activities on an open bridge line prior to the PSS transfer of command and control to senior managers; however, the PSS did not join the bridge line, and the TOC coordinator did not request confirmation that the PSS was actively monitoring the briefing. Consequently, the PSS was not informed of important response information conveyed during the briefing, including the transfer of IC authority from the FD captain to the FD assistant chief, and the operational status of the IMT. In addition, the FD captain requested the activation of the fire department support team (FDST) to provide rehabilitation for the field responders, an estimated time of arrival for explosives safety support, and expediting of the request for utilities to cut power to the scene 1 facility.
- JIC staff did not obtain important emergency information from the EOC, such as the total number of known injuries, potential fatalities, and whether injuries that occurred on a public highway under the

jurisdiction of the Panhandle FD IC were related to the Pantex incident and should be briefed during the Pantex press conference. Situational awareness in the JIC was diminished because JIC staff could not access the emergency management information system (EMInS) personnel status board, which had merged unrelated offsite vehicle accident injuries with the injuries at scene 1.

The site emergency plan, emergency plan implementing procedures, and checklists do not provide adequate instructions to ensure integration of all on-scene, site-level, and offsite ERO teams. This includes instructions to ensure that response information from first responders and ERO teams are collected and disseminated to achieve and maintain situational awareness among all responders' locations; establish an information flow structure that assigns specific responsibility for each key information set, including responsibility for verifying and validating essential incident information that has been collected; and implement feedback loops for completing key response tasks and validating response information. Consequently, PXD did not demonstrate an effective EOS that obtained and maintained situational awareness and disseminated a common operating picture among response components and external partners. (See **Finding F-PXD-1**.)

Situational awareness was further hampered by ineffective configuration of EMInS. EMInS is either not accessible or not fully accessible by all ERO teams, which diminished situational awareness for field responders at the ICP, OC, ESDC, and JIC. As a result, the ERO collectively did not acquire and consistently share an adequate understanding of the incident necessary to provide the desired level of response.

Emergency Operations System Conclusions

Overall, the PXD EOS was consistent with the operational concepts of the National Incident Management System, and PXD had adequate capabilities to collect incident information from centralized and well-equipped facilities. However, PXD did not effectively implement its EOS during the exercise and did not demonstrate an effective EOS that obtained and maintained situational awareness and disseminated a common operating picture among response components and external partners. Observed EOS performance issues and the absence of an adequate concept of operations diminished the effectiveness of the overall emergency response, particularly related to response decision-making, notifications, and emergency public information (EPI).

3.2 Emergency Categorization/Classification

This portion of the assessment determined whether the PXD PSS, as the predetermined decision-maker, correctly categorized and classified the incident as promptly as possible, but no later than 15 minutes after identification, and no more than 30 minutes from initial discovery.

The PSS correctly performed prompt incident categorization during the exercise by declaring two separate OEs not requiring further classification within 15 minutes of discovery. PXD has adequately established processes in its plans, procedures, and supporting systems for categorizing and classifying an OE and effectively demonstrated its incident categorization and classification process. As previously discussed, the exercise had two separate incident scenes that occurred within minutes of each other, one incident involving an unplanned detonation of explosives, and a second incident involving PXD employees in an offsite vehicle accident. Due to the FD response to the detonation incident, the FD had limited resources available, which resulted in the IC requesting assistance from Carson County to respond to the vehicle accident per a mutual aid agreement. During this exercise, the 911 call reporting the unplanned explosion and the PSS request for mutual aid were the key EAL indicators for the two separate OE identifications. As a result, the PSS declared two separate OEs not requiring further classification within 15 minutes of discovery. Once the EOC was operational, the EOC director and consequence

assessment team (CAT) leader confirmed the accuracy of the OE categorizations. Categorization of the two OEs did not change during the exercise.

Emergency Categorization/Classification Conclusions

Overall, PXD demonstrated an effective categorization and classification process, including plans, procedures, EALs, and supporting systems.

3.3 Notifications and Communications

This portion of the assessment determined whether PXD provided initial and follow-up notifications promptly, accurately, and effectively to all appropriate stakeholders, and whether the ERO maintained effective communications throughout the response.

PXD maintains dedicated systems to enable all required onsite and offsite notifications in a timely manner and demonstrated the use of the systems to promptly notify workers, the ERO, offsite agencies, and most field responders. The ESDC staff promptly notified and dispatched field response teams (FD and protective force) within minutes after receiving firewater flow alarms at the scene 1 building and provided the response teams with the appropriate meteorological information. In addition, the OC staff promptly notified workers to avoid the area as a population control measure and, after categorizing the incident, activated the ERO and provided safe routing information. Furthermore, the PSS promptly notified the offsite agencies using the PXD emergency notification form (ENF) and immediately followed up verbally. PXD appropriately issued a follow-up ENF notification after termination of the OEs at the end of the exercise. The PXD radio, Alertus (onsite notification system), telephone, ringdown phones, and EMInS communication systems operated reliably. PXD appropriately shifted the input location for Your Area Mapping System, which is a web-based graphical information system, to the EOC when the workstation at the TOC would not permit access by the IMT mapper.

Nevertheless, PXD did not provide written notifications in accordance with the Pantex emergency plan. Only an initial ENF was issued to offsite agencies, which was incomplete and contained inaccurate information. At least two follow-up notifications were required. In addition, PXD did not provide effective notifications to activate the FDST. Contrary to DOE Order 151.1D, attachment 3, paragraph 11.a, PXD did not provide accurate and complete initial and follow-up notifications to all appropriate stakeholders. (See **Finding F-PXD-2**.) Consequently, offsite decision-makers were not provided all the information they needed to fully understand the incident.

As discussed in section 3.1, situational awareness weaknesses contributed to incomplete and inaccurate information collection and dissemination. The notification process is susceptible to error because it involves establishing and maintaining a continuous common operating picture that is reliant on information passing through multiple personnel positions before initial and follow-up ENFs are completed, with information passing verbally from the facility, ICP, TOC, OC, and EOC before inputting to the ENF. During this response, the IC did not provide the PSS with required initial or updated scene assessment, which resulted in notifications to offsite agencies that did not include required information such as injured personnel, incident description, onsite PAs, facility damage, level of media interest, and current incident conditions. As a result, PXD either omitted, submitted in error, or delayed notification information required by DOE Order 151.1D, including:

- Providing an incident description associated with scene 1. An EAL number correlated with structural damage in an explosives facility was listed on the initial ENF; however, offsite agencies did not have access to the description linked to the number. Based on the initial 911 call, the PSS was aware before sending the ENF that blast doors at scene 1 were blown off and there was a fire at the facility,

but the PSS did not contact the IC to corroborate or refine the incident details, personnel status, or building damage. (See **Finding F-PXD-2**.)

- Providing the description associated with the mass casualty OE. This EAL number is associated with the availability of Pantex FD emergency medical services (EMS) resources as opposed to the actual number of casualties at scene 2, which was considered offsite and under the responsibility of the Panhandle FD and EMS. In addition, PXD did not notify offsite agencies that the FD returned its response units involved with scene 2 back to service two hours prior to the end of the exercise, changing the FD status as it relates to supporting automatic mutual aid for Carson County, as discussed in section 3.6. (See **Finding F-PXD-2**.)
- Issuing a follow-up ENF when additional information was known. Information that should have been reported on supplemental ENF updates includes: an updated description of the incident; onsite PAs implemented; extent of facility damage; the high level of media interest; reports that two personnel had not been accounted for at scene 1; and the EOC staff's determination that next-of-kin notifications were needed due to the high probability of fatalities. (See **Finding F-PXD-2**.)
- Attaining a timely response from the FDST (an 83-minute delay in arriving on scene) after the PXD incident command (IC and IMT) made several requests for support. (See **Finding F-PXD-2**.)

Notifications and Communications Conclusions

Overall, PXD promptly notified workers, the ERO, offsite agencies, and most field responders. In addition, communication systems functioned as intended. However, PXD did not maintain adequate situational awareness of the incident to ensure that all of the required ENF information was collected and verified as accurate and complete. Consequently, the initial notification to offsite agencies did not provide known and up-to-date information about the incident, and no follow-up notifications occurred. Additionally, PXD did not ensure a timely FDST on-scene response after PXD incident command requested support.

3.4 Protective Actions

This portion of the assessment evaluated whether PXD correctly identified and implemented PAs and protective action recommendations (PARs) to minimize the consequences of an emergency and to protect the health and safety of workers and the public.

During the exercise, PXD appropriately issued PAs to protect workers and first responders. PXD adequately identifies onsite PAs in the emergency plan; MNL-EM-352248, *Protective Actions and Reentry Manual*; and associated procedures. PAs include sheltering, active assailant/hostile incident, and evacuation. The emergency plan and MNL-EM-352248 also identify three population control measures that include curfew, avoid the area, and controlled release. The PSS appropriately issued a population control measure to avoid the area around scene 1 early in the exercise. Neither EAL used for categorization required any offsite PARs; however, for scene 1 the explosion EAL required a 100-foot isolation zone, which the PSS issued nine minutes after making an "avoid the area" announcement. Additionally, personnel at the scene 1 building quickly self-evacuated after the explosion and assembled at their designated assembly site, which was located outside of the isolation zone. PXD correctly implemented accountability procedures and effectively identified two missing workers.

Protective Actions Conclusions

PXD appropriately issued PAs to protect workers and first responders during this exercise. No offsite PARs were issued or necessary. The PSS appropriately issued an announcement to avoid the area and

established an isolation zone around the site of the explosion. Finally, workers quickly evacuated the building, conducted accountability, and effectively identified two missing workers.

3.5 Consequence Assessment

This portion of the assessment determined whether PXD's consequence assessment activities provided a conservative assessment, accurate projections using incident conditions, and supportive assessments throughout the emergency.

During the exercise, PXD had adequate consequence assessment capabilities to determine and correctly assess in a timely manner the estimates of onsite and offsite consequences of actual or potential releases of hazardous materials that considered site-specific characteristics (e.g., topography, meteorology). In addition, the Pantex emergency plan adequately describes the consequence assessment process and its primary objective of providing incident information to make informed decisions to protect onsite workers, the public, and the environment.

Upon ERO activation, PXD promptly staffed the EOC CAT, including a CAT leader/communicator, model operator, data collector, and data recorder. The CAT had local dispersion modeling resources available and connection to the National Atmospheric Release Advisory Center dispersion model to be used as part of near real-time consequence assessment. Meteorological data from Pantex meteorological towers is available to the National Atmospheric Release Advisory Center and is used to facilitate computations. The CAT reviewed the facility-specific EALs, confirmed the correct categorization, and promptly determined that no hazardous material was present in the scene 1 building. The CAT proactively initiated a dispersion model run based on a potential hazardous material release from the nearest building containing hazardous material. The CAT requested information from the PSS on whether the nearest building containing hazardous material was damaged and received a report of no damage to the building. The CAT leader accurately briefed the EOC executive team that the incident did not involve the release of hazardous material, that no additional PAs were required, and that no dispersion modeling was required.

Consequence Assessment Conclusions

Overall, the CAT demonstrated the ability to provide a conservative assessment of incident conditions. Appropriate dispersion modeling tools were available to the CAT; however, the incident did not involve the release of hazardous material, and no dispersion modeling was required.

3.6 Offsite Response Interfaces

This portion of the assessment evaluated the effectiveness of PFO and PXD in establishing and maintaining interfaces with local, state, tribal, and Federal organizations responsible for emergency response.

During the exercise, PFO and PXD adequately established interfaces with the local and state agencies per their procedures. PXD staffed four offsite agencies with offsite liaison officers (OLOs), and the PFO staffed the offsite liaison coordinator position within the Pantex EOC. A Texas Emergency Management employee staffed the Texas Department of Public Safety EOC. Per procedure, the OLOs logged into EMInS and opened the bridge line established by the PFO liaison coordinator.

Per the design of the exercise, scene 2 was outside the PXD primary response area (posted site boundary) as described in the memorandum of understanding (MOU) with Carson County; however, the Pantex FD responded based on an undocumented but routinely implemented automatic aid arrangement with Carson County. The Pantex FD routinely is the initial first responder for accidents immediately surrounding the

plant as defined by county road 14 to the north, country road J to the east, Highway 287 to the south, and FM-683 to the west. Although PXD was not in command of scene 2 and provided minimal support to the responding offsite organizations, the PSS was required to declare a second OE based on the automatic mutual aid response that reduced Pantex FD emergency medical response capability below the minimum level. Due to the response to scene 1, PXD had limited resources available and requested that Carson County send the Panhandle FD and ambulance service to manage the response to scene 2. In addition to the Panhandle FD and ambulance service, LifeStar air ambulance service responded to transport the most critical patient.

Some emergency management documents are not in agreement with current Pantex FD concept of operations, resulting in ambiguous assumption of risk and limited understanding by responsible personnel. (See **OFI-PXD-1** and **OFI-PFO-1**.) Specifically, the MOU with Carson County does not identify the practice of the Pantex FD providing automatic aid to the area immediately surrounding the plant. Additionally, the emergency plan identities firefighting MOUs with five counties and the city of Amarillo. However, section 3.3 of the baseline needs assessment only identifies firefighting MOUs with two counties (not including Carson County) and the city of Amarillo. Finally, the baseline needs assessment states that the Pantex FD is not the first responder for the Texas Tech University research area, contrary to the Pantex FD's current concept of operations.

Offsite Response Interfaces Conclusions

PFO and PXD appropriately identify offsite interfaces with surrounding city, county, and state agencies in numerous documents and MOUs. PXD adequately staffed employees at offsite agencies, and the Pantex FD supplied automatic aid at scene 2 per their current concept of operations. However, this placed the site in an additional EAL because of reduced emergency response capability. Further, the Pantex FD practice of providing aid in the area immediately surrounding Pantex is not adequately documented.

3.7 Emergency Public Information

This portion of the assessment evaluated the effectiveness of PFO and PXD EPI staff in providing accurate, candid, and timely information to workers, the media, and the public.

PXD uses MNL-EM-3522, *Emergency Public Information Manual*, to guide actions by EOC EPI and JIC personnel. PXD maintains a well-organized and equipped, multi-room JIC that is located outside of the ten-mile emergency planning zone. PXD activated the JIC per procedures and it was operational within one hour. EPI staff followed plans, procedures, and position-specific checklists to ensure that relevant and timely information was disseminated to external stakeholders, the public, and the media. EOC EPI staff approved and issued multiple public address announcements and populated EMInS with talking points. The PFO spokesperson in the JIC took prompt action to review and approve public information, and JIC staff actively monitored media, answered telephone inquiries from the public and media, and controlled rumors using social media platforms. Only approved messaging was released.

The JIC staff also initiated and conducted two timely news conferences. The initial press briefing was conducted 24 minutes after the JIC became operational. Commendably, JIC staff stated during interviews that their training emphasizes rapid interaction with the media because it helps prevent rumors, promotes transparency, and creates an atmosphere of trust. The PFO spokesperson appropriately emphasized in both press briefings that no hazardous material release occurred but added that the public should follow the instructions of elected officials in case of a decision to implement any precautionary PAs. The PFO spokesperson took immediate action to follow up on media questions that were not answered. During the second press briefing, the PFO spokesperson appropriately addressed concerns about whether the Pantex

explosion was caused by an act of terrorism. To alleviate concerns, the PXD technical spokesperson stated that radiological detection equipment would be used to verify that no release occurred.

While information provided to the media was timely, the EOC and JIC staff did not have a common operating picture. Even though no injuries were reported to offsite agencies on ENFs, there was no discussion between the EOC and JIC about whether the injuries that occurred on the public highway and under the jurisdiction of the Panhandle FD IC should be tracked and briefed as Pantex injuries. Also, based on information gleaned from EMInS, the PFO spokesperson briefed that the JIC was aware of five injuries at the time of the second news conference; however, prior to the briefing, the EOC was tracking eight injuries on the EMInS personnel tracking board, which cannot be viewed by JIC staff. Furthermore, the JIC staff never asked the EOC staff whether fatalities had occurred, even after the media requested information about two fatalities. Checklists direct JIC staff to contact EOC EPI staff for additional information to prepare for media briefings, and accurate information regarding injuries and potential fatalities could have been obtained if a bridge line call had been conducted. (See **OFI-PXD-2**.)

In addition to the JIC staff's lack of situational awareness, the initial news release was officially issued at 1114 hours, more than two hours after it was developed and after the site portion of the exercise terminated. Although EPI staff said during interviews that approval of the news release was simulated, there was no documented evidence of a decision to simulate approval of the news release. The news release could have been formally approved and quickly issued as EMInS allows news releases to be submitted to an exercise-only email group. (See **OFI-PXD-2**.)

Emergency Public Information Conclusions

PFO and PXD provided a well-organized and functional JIC that was adequately provisioned and staffed. In addition, EOC EPI and JIC staff followed plans, procedures, and position-specific checklists to ensure that timely information was provided to workers, external stakeholders, and the media. However, gaps in situational awareness hampered a common operating picture between the JIC and EOC staffs. As a result, the PFO spokesperson only briefed the media on the injury information that the JIC personnel could access in EMInS, rather than the injury information known in the EOC. In addition, formal approval and issuance of the initial news release statement was substantially delayed and occurred after the exercise was terminated.

3.8 Exercise Design and Conduct

This portion of the assessment evaluated the ability of the PXD exercise program to validate emergency response capabilities and test and validate emergency plans and procedures for identified hazards.

PXD adequately maintains documents that control the design, conduct, and evaluation of emergency management exercises, including MNL-EM-352240, *Exercise Program Manual*; WP-EM-0363, *Exercise Planning Process*; and exercise evaluation guides. Per its five-year exercise plan, PXD selected a credible scenario that was documented in MNL-EM-352293-AHS, *All Hazards Survey for the Pantex Plant*, and appropriately designed this exercise to focus on the actions of ERO members involved in management, direction, and command and control functions. PXD's exercise plan validated key capabilities and various aspects of the emergency management program. Because this exercise was not the annual full-participation exercise, planners chose a scenario without hazardous material consequences, combined with a separate offsite incident that allowed local offsite organizations to test various response capabilities.

To promote realism, scene 1 controllers used realistic photos to simulate the explosion area and allowed the FD to charge hoses and spray water to knock over cones, simulating the area of a grass fire. At scene 2, victim role-players conveyed hysteria and panic to heighten realism, and offsite first responders were

allowed to use extrication equipment. In addition, good planning and coordination occurred with offsite agencies for the scene 2 scenario, to include the real-time response of a LifeStar helicopter, which seldom occurs in DOE exercises.

Although the exercise was conducted safely and most of the planning was adequate, PXD did not ensure that the site was maintained in a stable configuration during the exercise and did not adequately control the exercise to ensure situational awareness among response components, as discussed in section 3.1. Because exercise planners did not fully understand the operation of the high-pressure fire loop, controllers allowed the FD to charge 900 feet of 5-inch hose, which resulted in the unexpected activation of two diesel fire pumps, causing water flow alarms and unplanned entry into an LCO. After learning of the LCO entry, the chief controller initiated an exercise pause but did not verify that LCO conditions were resolved before resuming play. In addition, when the exercise pause was lifted, the PSS continued performing all required LCO response actions while all other venues resumed play. By the time the chief controller realized that all venues did not restart, several important response actions occurred without the awareness of the PSS, including transfer of incident command to the FD assistant chief, recall of off-duty FD personnel, and an unsuccessful attempt by the IC to brief the PSS. (See **Finding F-PXD-1** and **OFI-PXD-3**.)

Additionally, several other issues detracted from the effectiveness of the exercise, as described below:

- The simulation cell did not begin making calls to the JIC telephone response team until 1100 hours, 10 minutes before the site portion of the exercise was terminated.
- JIC players stopped play after discovering at 1111 hours, by reading the EMInS significant events log, that the exercise had been terminated. The JIC controller appropriately instructed players to resume play several minutes later, allowing participants to conduct another press briefing.
- The inject provided to FD personnel at scene 1 did not include any evidence of fatalities. Planners said this was intentional, but evidence of fatalities would have been obvious and would have provided additional challenges for players, such as coroner notification and subsequent briefing of offsite stakeholders.

In accordance with procedures, PXD held player hotwashes at all venues immediately following the exercise and conducted a controller/evaluator debrief the next day. Appropriate objectives and evaluation criteria were chosen, and evaluators fully completed exercise evaluation guides at all venues. However, exercise planners stated during briefings that the expected response actions for some aspects of the offsite mutual aid response were unknown, and that evaluators would just have to "see what happens." PXD may have benefited from a tabletop review of this scenario prior to using it in an exercise to identify the expected responses, even if there were multiple acceptable responses, to facilitate lessons learned and continuous improvement. (See **OFI-PXD-3**.)

Exercise Design and Conduct Conclusions

PXD designed a challenging full-scale exercise in accordance with its plans, procedures, and checklists that fully engaged ERO capabilities and resources. However, due to inadequate planning, controllers allowed FD actions that resulted in an LCO. In addition, the chief controller restarted the exercise before the PSS completed all LCO response actions, which resulted in a lack of full situational awareness for some responders. Finally, some aspects of the offsite mutual aid response could not be fully evaluated because planners did not know all of the expected actions.

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, *Implementation of Department of Energy Oversight Policy*, to manage the corrective actions and track them to completion.

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Finding F-PXD-1: PXD did not demonstrate an effective EOS that obtained and maintained situational awareness and disseminated a common operating picture among response components and external partners. (DOE Order 151.1D, att. 3, pars. 4.b and 11.b)

Finding F-PXD-2: PXD did not provide accurate and complete initial and follow-up notifications to all appropriate stakeholders. (DOE Order 151.1D, att. 3, par. 11.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.

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OFI-PXD-1: To ensure understanding and to document agreement with the Pantex FD's concept of operations, consider revising all appropriate PXD documents to be consistent with the current concept of operations.

OFI-PXD-2: To improve EPI processes, consider:

- Revising plans, procedures, checklists, and training materials to ensure that bridge line calls between the EOC EPI and JIC staff are conducted periodically to promote a common operating picture.

- Ensuring that EPI staff are trained to quickly and formally issue news releases to the exercise-only email group during drills and exercises.
- Creating a new layout in EMInS that will allow JIC staff to review some of the information on the personnel tracking board without compromising any sensitive patient information.

OFI-PXD-3: To improve drills and exercises, consider:

- Ensuring that exercise planners and controllers understand potential situations that could impact site operations when the use of equipment is permitted during drills and exercises.
- Revising drill and exercise plans and procedures to ensure that verbal acknowledgment is obtained from key controllers at each venue before implementing or lifting drill/exercise pauses.
- Ensuring that all expected response actions are fully understood and documented prior to conducting an evaluated exercise.

Pantex Field Office

OFI-PFO-1: To ensure understanding and to document agreement with the Pantex FD's concept of operations, consider revising all appropriate PFO documents to be consistent with current concept of operations.

Appendix A
Supplemental Information

Dates of Assessment

October 7 to December 5, 2024

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

Quality Review Board

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