

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 6, 2024

TO: Timothy J. Dwyer, Technical Director
FROM: A. Holloway and C. Stott, Resident Inspectors
SUBJECT: Pantex Plant Activity Report for Week Ending December 6, 2024

Nuclear Explosive Operating Procedures: This week, the resident inspectors attended a causal analysis meeting for a recent event where PXD identified that a nuclear explosive operating procedure—for a certain weapon program that had recently resumed operations—did not contain a compensatory measure required by the justification for continued operations (JCO). Upon discovery of the procedural issue, PXD ceased nuclear explosive operations that utilize this procedure (see 11/8/2024 report). PXD has subsequently conducted an investigation and a critique for this event, which resulted in two resumptive actions that have since been completed—i.e., perform a review of compensatory measures in the procedure and publish a new issue of the document with the measures properly included.

During the causal analysis meeting, PXD noted that the implementation verification review (IVR) for the compensatory measures was conducted with a draft copy of the JCO that had incorrect wording, leading to the procedural issue. At the time, PXD had not finalized and published the JCO, and used a draft copy to ensure operations would restart before additional readiness activities would be required by DOE directives. PXD identified several preliminary actions during the causal analysis meeting, including the following: (1) updating the safety analysis engineering manual to include that compensatory measures for safety basis documents are automatically routed through PXD human factors engineering during the IVR process, (2) briefing IVR personnel that a watermark should be included on draft documents, (3) updating training to include best practices for working with draft documents, and (4) creating a lessons learned report.

Unauthorized Entry into Radioactive Material Area: This week, PXD explosives safety personnel escorted off-site visitors into a radioactive material area (RMA) without the required authorization or dosimetry. Prior to entry, these personnel toured the exterior of the facility and did not identify any RMA postings. Once inside, PXD personnel instructed the visitors to stay outside of the RMA boundary line on the floor of the facility. During the facility tour, other PXD explosives safety personnel informed this group that the entire facility is designated as an RMA. After all individuals exited the facility, PXD radiation safety technicians surveyed the area and determined that no one received an appreciable radiological dose during this facility entry. The resident inspectors attended the event investigation where PXD personnel presented pictures of RMA postings that were in place on the exterior of the facility at the time of entry. However, due to degradation effects from exposure to outside elements, the postings were illegible and lacking yellow and magenta coloring required for site RMA postings. Additionally, PXD did not previously remove the floor markings when the RMA boundaries were expanded to include the entire facility. As a result of this event, PXD radiation safety personnel replaced the exterior RMA postings and removed the interior floor markings for this facility and nearby facilities with similar posting requirements. PXD plans to brief all radiation safety technicians on the importance of evaluating the quality of RMA and other radiological postings during routine facility surveys.