

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

January 4, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Alexander Velazquez-Lozada, Cognizant Engineer
SUBJECT: Waste Isolation Pilot Plant (WIPP) Report for December 2018

DNFSB Staff Activity: There were no staff visits to WIPP this month. Staff oversight during fiscal year 2019 averaged to 1.33 person-weeks/month.

Safety Significant Controls: On December 9, the alarm panel in the Central Monitoring Room (CMR) failed to indicate the differential pressure across Bulkhead 308. Further investigation indicated a problem with the internal processor of the alarm panel. The Documented Safety Analysis (DSA) notes that the differential pressure across Bulkhead 308 is monitored to ensure that the underground air flows in the required direction and potential contaminated air is filtered before it is released to the surface. By December 12, the alarm panel problem was corrected and the panel was retested. This caused a delay of some waste shipments to WIPP.

On December 18, a continuous air monitor (CAM) indicated an alarm at the exhaust air drift of Panel 8. An analysis of the CAM filter media and adjacent air samplers revealed high radon levels. Other CAMs in the underground did not indicate an alarm. Further investigation revealed that, during the CAM alarm, the ventilation system was experiencing reduced air-flow while surface fan filters were being replaced. This could have increased the concentration of radon available in the underground. Radon decays rapidly and samples quickly decayed below regulatory limits. The required direction of air flow was verified before WIPP resumed normal operations.

Conduct of Operation: On December 26, NWP declared a Technical Safety Requirement (TSR) violation for not securing (i.e., shutting down) the Supplemental Ventilation System (SVS) while working on the Bulkhead 308 alarm panel. The Facility Shift Manager (FSM) entered but did not complete Limiting Condition for Operation (LCO) 3.2.3, to work on the Bulkhead 308 alarm panel. LCO 3.2.3 requires him to secure the SVS. However, personnel did not secure the SVS before conducting the work. The SVS was instead automatically shut down as designed by system interlocks while working on the Bulkhead 308 alarm panel. The operational status of the SVS was not recognized in the CMR. Later, the Underground Roving Watch noticed that the SVS was not running. Personnel immediately contacted the CMR and FSM. Since the work package had been completed at this point, the SVS fan was restarted. NWP has scheduled a fact finding meeting.

Waste Handling Building (WHB): In February 2018, Carlsbad Field Office (CBFO) issued a Safety Evaluation Report that approved revision 6 of the DSA. This approval was contingent on a Condition of Approval (COA) that required NWP to replace an administrative control with an engineered control (i.e., a passive design feature) to meet the hierarchy requirements of DOE-STD 3009-2014. The new engineered control prevents a fire-related structural failure of the WHB and was required to be implemented within six months after CBFO approved revision 6 of the DSA. There is no evidence that NWP has emplaced this passive design feature.