

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

June 5, 2020

TO: Christopher J. Roscetti, Technical Director
FROM: Alexander Velazquez-Lozada, Cognizant Engineer
SUBJECT: Waste Isolation Pilot Plant (WIPP) Report for May 2020

DNFSB Staff Activity: There were no Board's staff visits to WIPP this month.

COVID-19 Response. WIPP continues to follow the Centers for Disease Control and Prevention guidance related to COVID-19. During this reporting period WIPP continued to receive, process, and download transuranic (TRU) waste shipments at a reduced rate.

Nuclear Safety Basis. On May 29, 2020, the Board sent a letter to the Department of Energy (DOE) identifying four safety items related to accident analysis and control selection. The Board's letter also indicates that DOE should consider defense-in-depth measures for undesired waste reactions and strengthened federal oversight of maintenance of the WIPP safety basis.

Safety Significant Confinement Ventilation System (SSCVS). DOE conducted a project peer review (PPR) of the SSCVS. The PPR team assessed the progress of the project and whether it could be completed and start operating by the end of 2022. The team focused on technical, safety, quality, and management aspects of the project. The team also assessed the Utility Shaft Project and its interface with the SSCVS project. The team identified safety issues similar to those described in the Board's letter of August 27, 2019, and discussed ongoing activities addressing those safety issues. The PPR provided a significant number of recommendations.

Underground Ventilation System. The Consortium for Risk Evaluation with Stakeholder Participation (CRESP), a multi-university advisor to DOE's Office of Environmental Management, completed an independent assessment of the proposed 700-C fan restart (note that a test of fan operation is the next step, scheduled for this summer). They identified that although the underground air quality would benefit from increased airflow, there is a potential for a release of radioactive contamination during operation of this unfiltered mode of ventilation. The consortium suggested strategies to perform a controlled test with a continuous assessment to determine if fixation of potentially contaminated salt in the duct-work is needed. CRESP provided a set of recommendations including: releasing to the public a report that includes an estimate of a potential radiological release during restart; specifying clear limits in the test plan to determine whether to stop the restart test; assessing the structural and system integrity of the ventilation exhaust ducts prior to restart; periodic monitoring of the radiological conditions of the underground exhaust drift if WIPP decides to operate the 700-C fan for the long term; and ensuring that personal protective equipment is available during the test.

Maintenance. Nuclear Waste Partnership, LLC (NWP), reported a small fire while cleaning an underground diesel-fueled vehicle. After further investigation, NWP concluded that salt particulate matter acted as a conductor when water was introduced onto an exposed fuse, causing arcing, which progressed into an open flame. NWP workers immediately extinguished the fire and secured the area. NWP suspended similar preventive maintenance and started an extent of condition evaluation.