

## DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 3, 2021

**TO:** Christopher J. Roscetti, Technical Director  
**FROM:** Alexander Velazquez-Lozada, Cognizant Engineer  
**SUBJECT:** Waste Isolation Pilot Plant (WIPP) Report for November 2021

**DNFSB Staff Activity.** The Board's staff participated in regular conference calls to maintain cognizance of site activities.

**Underground Ventilation.** As reported in the October 2021 Monthly Report, Nuclear Waste Partnership, LLC (NWP), started the 40-hour balancing test of the unfiltered 700C fan the last week of October. NWP concluded the fan test the first week of November 2021. Based upon preliminary data, the test went according to plan. NWP and Carlsbad Field Office (CBFO) are now analyzing the collected data and will post the results to the 700C public webpage once the analysis is complete. NWP and CBFO will determine if there are any final pre-start activities necessary prior to returning the 700C fan system to full operations.

**Utility Shaft Project.** The New Mexico Environment Department approved the WIPP Permit Modification to continue excavation of the 5<sup>th</sup> shaft (utility shaft) as well as the mining of respective connecting drifts. The utility shaft, located across the road from the WIPP site, will be part of the Safety Significant Confinement Ventilation System (SSCVS), which is key to restoring full operations at WIPP. As part of the project, two access drifts will be constructed to connect the utility shaft with the existing WIPP underground.

**Nuclear Material Management.** NWP completed the Implementation Verification Review of the Safety Basis Supplement that allows WIPP to receive Standard Large Box 2 (SLB2) containers from the Savannah River Site that exceed the WIPP Waste Acceptance Criteria (WAC) radiological loading limit for SLB2 containers. NWP evaluated whether accidents involving these containers would remain bounded by the events analyzed in the WIPP Documented Safety Analysis (DSA). After the evaluation, NWP concluded that these accidents exceeded the consequences of the safety analysis and identified additional Technical Safety Requirement (TSR)-level controls to allow these SLB2 containers to be processed and emplaced at WIPP. The additional controls allow only one of the two highest SLB2s outside the TRUPACT-III at a time in the Waste Handling Building (WHB) and require two rows of separation between the highest SLB2s when emplaced in the underground.

**Underground Air Quality.** CBFO approved Revision 9 of the NWP Hazard Abatement Plan. NWP proposes various mitigation strategies to meet the new threshold limit value for Nitrogen Dioxide (NO<sub>2</sub>) exposure. The main strategies are to eliminate most of the sources of NO<sub>2</sub> by replacing diesel-operated equipment with battery-operated equipment and to dilute the remaining NO<sub>2</sub> by increasing air flow via completion of the SSCVS. With that purpose, CBFO approved the plan with the condition that any future procurements to replace diesel-operated equipment shall be battery-electric only and operational no later than the end of Fiscal Year 2024. Until all diesel-operated equipment is replaced and the SSCVS is complete, NWP plans to implement interim protective measures including sealing of bulkhead air leaks to enhance air flow, use of localized ventilation controls, and use of auxiliary fans.