

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

December 1, 2023

TO: Timothy J. Dwyer, Acting Technical Director
FROM: Erin A. McCullough, Cognizant Engineer
SUBJECT: Waste Isolation Pilot Plant (WIPP) Report for November 2023

DNFSB Staff Activity. The Board's WIPP cognizant engineer held weekly meetings to maintain awareness of mining and waste handling activities. During the week of November 27, 2023, the Board's cognizant engineer visited WIPP to obtain updates on issues discussed below.

Utility Shaft Construction Project Stop Work Order. On November 20, 2023, a material handling basket fell 2,150 feet down the shaft after becoming misaligned and contacting steel framing at the hoist opening. This is the third hoisting-related event at the Utility Shaft construction project in approximately one month. The management and operating contractor, Salado Isolation Mining Contractors, LLC, (SIMCO), issued a formal Stop Work Order to the subcontractor performing the work, Harrison Western Shaft Sinkers JV, LLC (HWSS). SIMCO managers plan for the Stop Work Order to remain in effect until HWSS completes a formal investigation and inspections, takes appropriate recovery actions, and implements corrective actions for hoisting evolutions. Although the formal investigation continues, project staff have preliminarily identified that HWSS staff failed to implement formal controls for hoisting and rigging activities, instead relying on informal operator actions which proved ineffective.

Salt Handling Shaft Structural Condition. The Salt Handling Shaft, which serves as a personnel ingress/egress route and avenue for transporting mined salt out of the underground, is more than 40 years old. The shaft cuts through a salt seam, which is a geological layer highly susceptible to plastic deformation (creep). As the salt seam deformed over time below the shaft station, loads increased on the structural steel reinforcing the lower part of the shaft, causing some steel members to fail. Shaft maintenance personnel installed steel bracing as a temporary mitigation measure until project funding is available to comprehensively refurbish the structural steel frame. The salt creep also continues to reduce the clearance space between the salt conveyance cart and steel guide frames, posing the likelihood of near-term mechanical impingement of the cart. SIMCO and Department of Energy personnel held an alternatives analysis briefing that addressed how site personnel plan to preserve safety and operational capabilities at WIPP if the Salt Handling Shaft goes out-of-service as a function of the changing structural conditions. Discussions with site shaft engineers highlighted a strong priority for them to maintain the ingress/egress function through partial structural modifications, even if the salt conveyance capabilities are lost.

Progress with Overcoming Oversight Staffing Challenges. The Carlsbad Field Office (CBFO) has experienced difficulty recruiting and retaining qualified personnel to fill nuclear safety oversight functions, particularly in facility representative positions. CBFO managers expressed their intent to host multiple facility representatives from other DOE sites through detail assignments to amplify oversight capabilities. These detail assignments are intended to augment contracted oversight resources that are currently in place while full time positions are being filled.