

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

April 1, 2019

TO: Christopher J. Roscetti, Technical Director
FROM: Alexander Velazquez-Lozada, Cognizant Engineer
SUBJECT: Waste Isolation Pilot Plant (WIPP) Report for March 2019

DNFSB Staff Activity: R. Quirk provided routine oversight. Staff oversight during fiscal year 2019 has averaged 1.5 person-weeks/month.

Waste Management: Carlsbad Field Office (CBFO) approved the Response Plan of Nuclear Waste Partnership, LLC (NWP), to “leave-as-is” transuranic (TRU) mixed waste containers that are unlabeled for Polychlorinated Biphenyls (PCB) and that are already emplaced in Panel 7. CBFO approved the Response Plan with no additional operational restrictions or interim controls and found the Response Plan to be sufficient with regard to the Technical Safety Requirement (TSR), Section 5.4.4, Response Plans. CBFO indicates that the TRU mixed waste stream was evaluated, found nonreactive as documented in a revised Acceptable Knowledge Summary Report, and determined to be compliant with the TRU Waste Acceptance Criteria for WIPP. As the labeling of the TRU mixed waste containers for PCBs is outside the framework of the TSRs, CBFO concluded that no additional TSR controls are warranted.

Waste Handling Building (WHB): CBFO identified a potential inadequacy in the safety analysis (PISA) related to a differential pressure condition that can cause WHB air to flow from the Contact Handle Waste Processing Area (CH Bay) into the Remote Handled Waste Processing Area (RH Bay) and exhaust from the WHB through uncredited high-efficiency particulate air (HEPA) filters. The flow paths of concern are through the RH Bay and/or Hot Cell Complex filtration systems, which are not currently under TSRs control. This condition represents a new failure mode for the credited CH Bay WHB Confinement Ventilation System that is not described in the Documented Safety Analysis or addressed in the TSRs.

Safety Significant Confinement Ventilation System (SSCVS): CBFO directed NWP to stop work on the construction and operation of the subcontractor’s concrete batch plant for the SSCVS until the Department of Energy’s National Environmental Policy Act (NEPA) analysis is completed. CBFO is requesting information to aid in the completion of the NEPA analysis. Until the NEPA analysis is completed, concrete from the batch plant cannot be used at WIPP.

The Office of Environmental Management performed a peer review of the WIPP SSCVS and Utility Shaft (US) projects. The peer review team provided, among others, the following two recommendations: (1) “Upon identification of source of funding, WIPP should ensure underground CAM [continuous air monitor] design maturity, procurement, and ensure installation schedule is aligned to support WIPP,” and (2) “WIPP needs to ensure that provisions for such interlock [between the Utility Shaft supply fans and the SSCVS fans], which will be safety significant, are established in the programmable logic controller. Complete prior to US startup.” These two recommendations are in line with observations documented in the Board’s letter of March 26, 2018. In this letter, the Board described concerns with the SSCVS final design documentation and the lack of requirements for the full integration of the underground safety significant CAM system and its supporting systems.