

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 3, 2019

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

DNFSB Staff Activity: R. Quirk provided routine oversight. Staff oversight during fiscal year 2019 has averaged 1.4 person-weeks/month.

Transuranic (TRU) Waste. Los Alamos National Laboratory (LANL) Carlsbad Operations (CO) released two reports in February and April 2019. The first evaluated the hazards of cellulose-based materials exposed to nitric acid and metal nitrate salts in transuranic (TRU) waste. The second discussed a potential basis for the safe emplacement at WIPP of TRU waste currently staged at the Waste Control Specialists (WCS) facility in Texas. In the first report, LANL-CO concluded that the drums are safe if they have been stored for a minimum of 200 days at a minimum mean daily temperature (MMDT) of at least 50 °F. This evaluation excluded Type III drums, which were the type associated with the radiological release at WIPP in February 2014 and diverted to WCS. In the second report, LANL-CO explicitly evaluated Type-III drums and concluded that the drums are safe if they have been stored for approximately 730 days at a MMDT of 50 °F.

Safety Significant Controls. Nuclear Waste Partnership, LLC (NWP) is evaluating operations on the Safety Instrumented Alarm System (SIAS) that were performed without a work control document (WCD). The operations performed on the SIAS were to diagnose, retrieve errors, and reload the software. A WCD is required per the WIPP Work Control Process procedure. However, this procedure excludes software changes. NWP is performing a causal analysis and evaluating whether the actions of diagnosing, retrieving errors, and reloading the software are included in the definition of a software change.

TRUPACT-III. The Carlsbad Field Office (CBFO) is reviewing Nuclear Waste Partnership, LLC (NWP), plans to start receiving, downloading, and emplacing contact handled (CH) transuranic (TRU) waste shipped in TRUPACT-III casks. NWP plans to start TRUPACT-III waste operations in 2019.

Fire Protection. CBFO is evaluating a modification to an exception to DOE Order 420.1, "Facility Safety." This exception allows NWP to move a combustible storage area from a maintenance shop to a temporary storage area in the underground.

Underground Air Quality. Innovative Combustion Technologies, Inc. (ICT), completed emission testing of five different types of underground diesel equipment. The emissions data were measured inside of the tailpipe of each equipment. The test evaluated four conditions on each equipment: steady state, fast idle, quick acceleration, and under load.

Utility Shaft Project. CBFO is in the process of approving Critical Decision (CD)-3 for the final approval of the Utility Shaft Project. The Utility Shaft Project will add a new shaft and two air supply fans with a capacity of 500,000 cubic feet per minute (cfm) each.