

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

May 1, 2020

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

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

COVID-19 Response. WIPP did not schedule transuranic (TRU) waste shipments between the weeks of April 12 and April 19, 2020. All the waste already at the WIPP site was then processed, downloaded, and emplaced in the underground. During the shipping pause, WIPP continued to work in the underground, making progress in ground control. WIPP continues to follow the Centers for Disease Control and Prevention guidance related to COVID-19. WIPP personnel are authorized and encouraged to work remotely as much as possible and WIPP has limited the presence of personnel onsite. The WIPP medical staff continues to check body temperatures of all personnel before allowing entry to the site. WIPP personnel are encouraged but not required to use Personal Protective Equipment (PPE); only medical staff are currently required to use PPE. Nuclear Waste Partnership, Inc. (NWP), has submitted to the Carlsbad Field Office (CBFO) a preliminary plan to resume normal operations at the WIPP site.

Underground Ventilation Filtration System (UVFS). CBFO is evaluating a potential inadequacy in the safety analysis related to the clogging of high efficiency particulate air (HEPA) filters in the safety significant UVFS caused by a scenario that involves vehicle tires burning during a liquid fuel pool fire near the underground waste. The UVFS HEPA filters are the last physical barrier for the UVFS safety-significant confinement boundary. The WIPP accident analysis estimates that underground fires involving more than 29 gallons of diesel fuel have the potential to clog the UVFS HEPA filters. Based on this, vehicles with 29 gallons or more of diesel fuel and hydraulic fluid in the vicinity of contact handled waste require an operational safety-significant fire suppression system. The WIPP accident analysis identifies vehicle tires as a source of combustible material but does not include the soot that tires could generate in the evaluation of UVFS HEPA filters clogging.

Conduct of Operations. NWP reported the discovery of an uncontrolled hazardous energy source when an electrician cut an energized wire (277 volt) in the underground and a circuit breaker trip occurred. NWP stopped work and required notifications were made. The work area was placed in a safe configuration and the affected circuit was subsequently locked out.

NWP also reported a performance degradation in a safety-significant automatic fire suppression system (AFSS) of an underground waste transporter vehicle. During a semiannual inspection an NWP Fire Protection Engineer discovered a disconnected fire suppression hose in the AFSS. Work was paused and required notifications were made. Further NWP investigation did not find records documenting the disconnection of this hose. NWP is evaluating post-maintenance inspection requirements and reviewing previous inspections to identify similar occurrences.