Battelle Memorial Institute Comments on Agency-Initiated Draft Hazardous Waste Facility Permit for the Waste Isolation Pilot Plant, Carlsbad, New Mexico

Introduction

Battelle Memorial Institute (Battelle) has operated the Department of Energy's (DOE) Pacific Northwest National Laboratory (PNNL) since 1965. PNNL's scientific discovery mission includes research that lays a foundation for innovations in 22 core capabilities, including nuclear chemistry and nuclear engineering, and enhances national security through nuclear materials and threat analyses. This research generates waste, including transuranic (TRU) waste. The Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico, is the only authorized permanent disposal site for PNNL's defense-related TRU waste.

Safe, compliant operations have been of paramount importance to Battelle throughout its 60 years of operating experience at PNNL. As such, PNNL does not and cannot generate waste that does not have a pathway to disposal. Battelle is concerned that the New Mexico Environment Department's (NMED) proposed Agency-Initiated Modification (AIM) to the hazardous waste facility permit for WIPP will eliminate the sole disposal pathway for PNNL-generated TRU waste, thereby terminating much of PNNL's mission-centric, national security-critical research. Battelle therefore submits the following comments in support of its request that NMED not finalize the proposed AIM to the WIPP hazardous waste permit. These comments build upon and are consistent with the comments Battelle previously provided to DOE's Pacific Northwest Site Office, which oversees PNNL, for forwarding to DOE's Carlsbad Field Office, which oversees WIPP.

Background

PNNL's research operations generate various types of waste, including but not limited to TRU waste. PNNL's TRU waste is packaged and transported to DOE's Hanford Site (Hanford) for interim storage pending certification and shipment to WIPP for final disposal. Hanford waste shipments to WIPP, including shipments of PNNL waste in interim storage, are governed by the Hanford Federal Facility Agreement and Consent Order, also known as the Tri-Party Agreement (TPA), and must proceed according to the TPA schedule negotiated

among DOE, the U.S. Environmental Protection Agency (EPA), and the Washington Department of Ecology (Ecology).[1]

WIPP's 2025 Revised Legacy TRU Waste Disposal Plan ("Legacy Plan") took the TPA schedule and milestones into account. It classified PNNL operational waste as "non-legacy" waste because it comes from ongoing research and mission activities rather than cleanup of historical Cold War or Manhattan Project-era facilities. While all Hanford waste fell under the "legacy" category, PNNL's waste streams were specifically identified as an exception. Since the Legacy Plan only encouraged, rather than required, generator sites to prioritize disposal of legacy waste to the extent practicable, the distinction had minimal impact on PNNL operations and no impact on the existence of a disposal pathway for PNNL-generated TRU waste.

Proposed AIM

NMED's proposed WIPP permit modification would take precedence over the Legacy Plan (see proposed modification to Part 4, Section 4.2.1.5., stating "The disposal of *legacy waste, as defined in Part 1, Section 1.5.24*…" (emphasis added)). NMED's proposal would create two categories of waste: Projected Waste and Legacy Waste. Projected Waste would be waste that "has not [yet] been generated (does not physically exist)" and would include waste from ongoing projects and decontamination and decommissioning waste that has not yet been packaged. Legacy Waste would be "waste placed in retrievable storage that is part of a TRU or TRU mixed waste stream without a projected waste component." The Legacy Waste definition would apply to all generator and storage sites except those with state-agency adopted site-specific legacy waste definitions. There would be no similar exception for the Projected Waste definition.

Hanford has a site-specific legacy waste definition – specifically, Hanford legacy waste is all waste retrieved, buried, and/or generated prior to June 2000 – so NMED's proposed Legacy Waste definition would not apply to the Hanford site. The proposed Projected Waste definition would apply, however, and so TRU waste from ongoing and future PNNL projects (and even some Hanford cleanup waste that has not yet been generated) would be Projected Waste. When read together with the proposed permit modifications requiring prioritization of Legacy Waste for emplacement (discussed below), these proposed

[1] Battelle is not a party to the TPA and does not speak for DOE, Hanford, EPA, or Ecology. Mention is made of the TPA for the sole purpose of outlining, at a very high level, the framework governing compliant disposal of PNNL-generated TRU waste.

definitions would potentially eliminate the only pathway to disposal for PNNL-generated TRU waste.

The proposed permit changes also would establish mandatory disposal targets that would reserve most WIPP capacity for legacy waste, particularly LANL legacy waste. These targets would be a minimum; when taken together with the proposed permit modification requiring prioritization of legacy waste, the practical effect would be that most if not all waste emplaced at WIPP would be legacy waste (whether from LANL or elsewhere). Projected waste would only be eligible for emplacement if capacity remained after all LANL legacy waste and other legacy waste are emplaced. If the proposed modifications are finalized, PNNL would at best be competing for a much smaller portion of the available disposal capacity. At worst and more likely, there would be no disposal pathway for projected waste from PNNL or any other generator site.

Additionally, the proposed "cease shipment" provision would require all shipments to stop until compliance is restored if WIPP does not meet the required legacy waste disposal targets. That could delay or halt shipments of PNNL TRU waste even if PNNL has operational needs, storage limitations, or regulatory drivers requiring disposal.

Conclusion

Overall, the proposed permit modifications would move PNNL-generated TRU waste from a lower priority but still flexible shipping position to one with more limited disposal access at best, and at worst (and more likely) they would eliminate the only disposal pathway for this waste. Battelle strongly encourages NMED not to finalize the proposed AIM.