Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

November 22, 2022

Mr. Rick Shean, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Request for a 180-Day Extension of Storage Time for a Contact-Handled Waste Shipping Package in Storage at the Waste Isolation Pilot Plant, Hazardous Waste Facility Permit Number NM4890139088-TSDF

Dear Mr. Shean:

The purpose of this letter is to request an extension of storage time for a Contact-Handled (CH) Transuranic (TRU) mixed waste container in storage in the Parking Area Unit (PAU). The container is in storage in shipping package HalfPACT 506, and is sealed (closed) for storage. This extension of time request is to address the PAU storage time limits in Permit Part 3, Section 3.1.2.6, and Permit Attachment A1, Section A1-1c(2); specifically, the 59-day storage time limit for contact-handled shipping packages stored in the PAU. The waste remains sealed within the Inner Containment Vessel (ICV) pursuant to Permit Part 3, Section 3.1.2.5. This request is being made in accordance with Permit Part 1, Section 1.10.3., Extension of Time.

The HalfPACT 506 contains a single standard waste box (SWB) (container ID number SWD12275) of TRU mixed waste from waste stream SR-SWMF-HET-A, Contaminated Debris from the Solid Waste Management Facility. The SWB was received from the Savannah River Site in shipment number SR220010. The Permittees request a 180-calendar day storage time extension for this container. The container will remain in storage in the closed HalfPACT 506. The period of time for this extension of time (i.e., proposed revised schedule pursuant to Permit Part 1.10.3) is November 23, 2022 through May 21, 2023.

Background information and the basis for this request pursuant to Permit Part 1, Section 1.10.3, is provided below.

The HalfPACT 506 (SR220010) arrived at the Waste Isolation Pilot Plant (WIPP) facility on August 26, 2022, and was moved into the CH Bay for processing on September 23, 2022. No radiological surface contamination was found on the HalfPACT, nor on the exterior of the ICV lid. On September 26, 2022, a radiological assessment filter (RAF) air sample was drawn from the ICV of HalfPACT 506 in accordance with the WIPP waste handling procedure. In accordance with this standard operating procedure, the RAF sample is taken prior to venting and opening the ICV in order to determine if airborne radiological contamination is present within the sealed ICV. In total, there were three (3) RAF air samples taken. On September 30, 2022, the Permittees informed the New Mexico Environment Department (NMED) that some airborne radiological contamination was identified on the RAF sample obtained from HalfPACT 506.

The RAF air samples were surveyed by radiation field instrumentation which indicated airborne alpha-contamination within the sealed ICV. The WIPP radiochemistry data confirmed americium-241 and plutonium-238 on the RAF air samples. Once airborne contamination was detected, processing (i.e., removing the ICV lid and the SWB) of this HalfPACT was suspended.

The extension of time is needed to address the processing complications described below in order to determine the safe disposition of this HalfPACT and its contents:

- Radiochemistry analysis indicates internal airborne alpha-contamination of TRU isotopes inside the ICV. Opening the ICV may release airborne alpha-contamination.

- The loaded HalfPACT 506 shipping package reached its five-year maintenance period while in storage at the WIPP facility on September 30, 2022 and is no longer Nuclear Regulatory Commission (NRC) certified for transportation. The HalfPACT cannot be returned to the generator storage site without special NRC authorization.

The waste inside the sealed ICV in HalfPACT 506 poses no additional hazards to human health or the environment due to the proposed storage time extension. This is based upon:

- The ICV is a robust container of steel construction (approximately 0.25-inch ASTM A240, type 304 stainless steel) and is sealed.

- The ICV is part of the HalfPACT shipping package that is an NRC-licensed Type B package which has successfully completed rigorous container integrity tests.

- To vent the ICV safely without removing the lid, air was drawn through the High-Efficiency Particulate Air (HEPA) filtered RAF assembly tool until HalfPACT 506 achieved a vented/steady state. After venting and subsequent resealing, the HalfPACT was moved to the PAU on October 6, 2022.

- The ICV is being stored in accordance with WIPP standard operating procedures that implement the Permit requirements (e.g., inspections, security) and WIPP safety requirements.

- The Permittees have demonstrated that they can successfully store waste containers over extended storage times with no impact to human health and the environment. In the past (due to the 2014 radiological event), waste containers were stored safely at the WIPP facility for up to approximately three years.

According to the Permittees' Part B Permit Application submitted in 1996, Section D-1a(1)(b), Parking Area Storage Unit, venting is necessary to "avoid unacceptable levels of internal pressure". The Permittees have determined the gas generation rate to be extremely low and the next venting date to be years in the future. The requirements in the Permit to vent the ICV within 59 days of the ICV closure date at the generator storage site are to comply with the NRC Certificate of Compliance for the HalfPACT. Because the HalfPACT has been vented, the 59-day requirement has been met. Because the gas generation rate is extremely low, additional venting during the 180-day extended storage is unnecessary from a safety basis determination of the gas generation rate of the payload.

The storage of the SWB in the closed ICV, inside the closed HalfPACT is a safe configuration and the extended storage time proposed poses no additional hazards to human health or the environment.

The Permittees will notify the NMED once the final path forward for the safe disposition of HalfPACT 506 is identified and will provide the NMED an updated anticipated schedule of activities. Note that an additional extension of time may be required in order to implement an appropriate path forward once identified.

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Your timely response to this letter is appreciated. If you have any questions, please contact Mr. Michael Gerle at (575) 988-5372.

Sincerely,

Signatures on File

Reinhard Knerr
Manager
Carlsbad Field Office

Sean Dunagan
President and Project Manager
Nuclear Waste Partnership LLC

cc:
D. Biswell, NMED *ED
R. Maestas, NMED ED
A. Donahue, NMED ED
M. McLean, NMED ED
CBFO M&RC
*ED denotes electronic distribution