Department of Energy
Carlsbad Field Office
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June 27, 2022

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

Subject: Response to the Referenced Technical Incompleteness Determination – Asterisked Items, Waste Isolation Pilot Plant Hazardous Waste Facility Permit Number: NM4890139088-TSDF

Reference: New Mexico Environment Department correspondence from Rick Shean, Chief, Hazardous Waste Bureau, to Reinhard Knerr, Manager, and Sean Dunagan, President and Project Manager; Subject: Technical Incompleteness Determination Permit Renewal Application, Waste Isolation Pilot Plant, EPA I.D. Number NM4890139088, dated May 13, 2022

Dear Mr. Shean:

Enclosed is the Permittees' response to the referenced Technical Incompleteness Determination for the asterisked items therein.

We certify under penalty of law that this document and enclosure 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.

If you have any questions, please contact Mr. Ed. Garza at (575) 234-8368.

Sincerely,

Signatures on File

Reinhard Knerr
Manager
Carlsbad Field Office

Sean Dunagan
Project Manager
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Enclosure

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CBFO:ERCD:MG:MC:22-0225:UFC 5487.00

Response to Technical Incompleteness Determination – Asterisked Items

On May 13, 2022, the NMED requested information regarding the Permittees Renewal Application. Below is the Permittees' response to the items marked with an asterisk. Direct quotations are in italicized text. The proposed redline strikeout (RLSO) changes, in response to these items, are highlighted in yellow.

*1. *Please propose an operating period closure date (i.e., month, day, year) to be added to the Permit to realistically portray the operating period of the WIPP facility based on waste projections and within volume limits set by the Land Withdrawal Act (LWA).*

RESPONSE: The Permittees provided the required closure plan pursuant to 40 CFR 270.14(b)(13) in the Ten-year Permit Renewal Application (Renewal Application). This plan complies with 40 CFR 264.112(b), *Content of plan*. The Permittees proposed deletion of the 2034 final facility closure date in the Renewal Application, Permit Attachment G, Section G-1d(2), *Schedule for Final Facility Closure.* The Permittees proposed deletion of the final facility closure date for the following reason:

- The requirement for "…an estimate of the expected year of final closure", specified in 40 CFR 264.112(b)(7), does not apply to the WIPP facility because 40 CFR 264 Subpart H, *Financial Requirements*, does not apply. At the time the original Permit was issued, 40 CFR 264.112(b)(7) did apply because the management and operating contractor and co-permittee, Waste Isolation Division, was required to comply with 40 CFR 264 Subpart H. By letter on August 9, 2000, NMED Secretary Peter Maggiore informed the Permittees that the Financial Assurance provisions in the Permit "…may not be enforced, are no longer effective, and are hereby withdrawn." (AR 000817). The NMED prepared a RLSO of the affected sections of the Permit (AR 000815), however, failed to remove the estimate of the expected year of final closure specified in 40 CFR 264.112(b)(7). This could be removed at any time under 40 CFR 270.42, Appendix I, Item A.8 (Class 1 with prior Agency approval).

The Permittees proposed in the Renewal Application Permit Attachment G, Section G-1d, *Schedule for Closure,* the following:

> *For the purpose of establishing a schedule for closure, the final waste disposal will mark the end of the Disposal Phase and will occur when permitted HWDUs are filled or have achieved their maximum capacities as outlined in Permit Part 4, Table 4.1.1, or when the WIPP facility achieves its capacity of 6.2 million cubic feet (ft^3) (175,564 cubic meters (m^3)) of LWA TRU waste volume. The Permittees also assume closure will take 10 years.*

The Permit states in Attachment G, Section G-1d, *Schedule for Closure:*

> *This operating period may be extended or shortened depending on a number of factors, including the rate of waste approved for shipment to the WIPP facility and the schedules of TRU mixed waste generator sites, and future decommissioning activities.*

Proposed language in the Renewal Application in the same section of Permit Attachment G similarly reads:

> *The Disposal Phase may be extended or shortened, within the authorized capacities, depending on a number of factors, including the rate of waste approved for shipment to the WIPP facility and the schedules of TRU mixed waste generator sites, and future decommissioning activities.*

Therefore, the Permittees are not proposing a final facility closure date for inclusion in the Permit. However, in the interest of providing the NMED with information regarding the expected life of the WIPP Project, the Permittees provide the following information:

In the Annual Transuranic Waste Inventory Report (ATWIR), waste streams are designated as either WIPP-bound or potential (have uncertainties regarding eligibility for emplacement in the WIPP repository, as of the data cutoff date for this report). The most recent ATWIR[1] states the following:

> *Projected Beyond CY 2033 (~78,700 m^3): WIPP-bound and potential TRU waste that is projected to be generated after CY 2033 up through CY 2083.*

The ATWIR indicates that waste streams categorized as WIPP-bound will be generated up to 2070. Based on the potential category waste stream inventory estimates in the 2021 ATWIR, final facility closure could begin no earlier than CY 2083. Regardless of the generation date, the volume of TRU waste emplaced in the repository cannot exceed the WIPP Land Withdrawal Act total capacity limit of 6.2 million ft^3 (175,564 m^3).

*11. **In Table G-1, please suggest Permit language to clarify that equipment proposed for disposition at WIPP at the end of the operating period, as opposed to being decontaminated, will still meet the chemical compatibility requirements of the DOE Waste Acceptance Criteria (WAC).*

RESPONSE: The chemical compatibility requirements in the Permit are the same as the requirements in the DOE WAC [DOE/WIPP-02-3122], Section 3.5.3, *Chemical Compatibility*. Because the DOE WAC is not part of the Permit, the following discussion focuses on the chemical compatibility requirements in the Permit.

Permit Attachment G, Table G-1, *Anticipated Earliest Closure Dates for the Underground HWDUs*, does not address final facility closure, therefore, Table G-1 is not an appropriate location for the requested language. Furthermore, Permit Attachment G, Section G-1, *Closure Plan*, addresses abandoned equipment that cannot be decontaminated:

> *Equipment that cannot be decontaminated plus any derived waste resulting from decontamination will be placed in the last open underground HWDU.*

[1] https://wipp.energy.gov/national-tru-program-documents.asp

The requirements in Permit Part 2, Section 2.3.3.4, *Chemical Incompatibility,* apply to the equipment to be abandoned upon final facility closure. This section states:

> *Wastes incompatible with backfill, seal and panel closures materials, container and packaging materials, shipping container materials, or other wastes are not acceptable at WIPP*.

The Permittees propose revising the "Activity" column, "Dispose of Closure-Derived Waste", row of Permit Attachment G, Table G-2, *Anticipated Overall Schedule for Final Facility Closure Activities*, and adding a footnote as follows:

> Dispose of Closure-Derived Waste and Equipment*
>
> * The requirements in Permit Part 2, Section 2.3.3.4, *Chemical Incompatibility,* apply to the equipment to be abandoned upon final facility closure.

*12. *In Attachment G, please suggest Permit language to clarify that the closure of Panel 9 effectively also closed Panels 3, 4, 5, and 6, and to clarify that substantial barriers were installed in Panel 3, 4, and 6, an explosion-isolation wall was installed in Panel 5, and to clarify how Panel 9 was closed.*

RESPONSE: In response to the NMED's request *to clarify that the closure of Panel 9 effectively also closed Panels 3, 4, 5, and 6*, and *to clarify how Panel 9 was closed*, the Permittees suggest revising the "**" footnote to Permit Attachment G, Table G-1 as follows:

> ** Panel 9 was not used for TRU mixed waste disposal. ~~Closures for~~ Panels 3, 4, 5 and 6 were ~~placed~~ closed by placing closures in Panel 9 in the north-south mains (E-300, E-140, W-30 and W-170), as shown in Figure G-1, pursuant to Section G-1e(1).

The Permittees also suggest revising the text in the updated RLSO in Permit Attachment G, Section G-1e(1), *Panel Closure*, as follows:

> G-1e(1) Panel Closure
>
> ~~Figures G-4, G-4a, and G-5 show diagrams~~ Diagrams of the panel closure design, the substantial barrier, and installation envelopes are depicted in Permit Attachment G1, Appendix G1-B, Figure M-63, and Figure M-42. Permit Attachment G1 provides the detailed design and the design analysis for the panel closure system. The Permittees shall use bulkheads as specified in Attachment G1 for the closure of filled panels. A run-of-mine (**ROM**) salt component, placed between two bulkheads, was ~~will be~~ included in the closure for Panel 9 and will be included in the closure for Panel 10. The substantial barrier in Figure M-63~~G-4a~~ will be installed in Panels 7 and 8.

In response to the NMED's request *to clarify that substantial barriers were installed in Panel 3, 4, and 6, an explosion-isolation wall was installed in Panel 5,* the following response is provided*:*

Explosion-isolation walls are no longer components of the Permit's approved closure design described in Permit Attachment G, *Closure Plan*, and Permit Attachment G1, *WIPP Panel Closure Design Description and Specifications*. Although explosion-isolation walls were installed

in Panels 1, 2, and 5, most text pertaining to explosion-isolation walls were removed from the Closure Plan when the Class 3 Permit Modification Request (PMR), *Modifications to the WIPP Panel Closure Plan*, was approved by the NMED on September 7, 2018. The remaining text pertaining to explosion-isolation walls was removed from the Closure Plan, via a Class 1 Permit modification submitted to the NMED on July 23, 2020. Because explosion-isolation walls are not components of the Closure Plan, the Permittees are not suggesting respective Permit language for the Closure Plan. Note however that the definition of explosion-isolation wall in Permit Part 1, Section 1.5.15, states that an explosion-isolation wall was installed in Panel 5:

> *1.5.15. Explosion-Isolation Wall*
>
> *"Explosion-isolation wall" means the 12-foot wall intended as an explosion isolation device that has been constructed to initially close Panels 1, 2, and 5 subsequent to the completion of waste emplacement.*

Substantial barriers are not components of the closure design in Permit Attachment G1, *WIPP Panel Closure Design Description and Specifications*. Substantial barriers were installed in Panels 3 and 4 to isolate the panels for hydrogen and methane monitoring, as described in the Class 2 PMR, *Monitor for Hydrogen and Methane until Final Panel Closure*, submitted to the NMED on November 20, 2007 (AR07118). Substantial barriers were installed in Panel 6 pursuant to the Nitrate Salt Bearing Container Isolation Plan submitted to the NMED in response to Administrative Order 05-20001. Substantial barriers are only required to be installed in Panels 7 and 8 pursuant to Permit Attachment G, Section G-1e(1). Because the closure of Panel 9 closed Panels 3, 4, 5, and 6 and the Closure Plan requires substantial barriers only for Panels 7 and 8, the Permittees are not suggesting Permit text clarifying that substantial barriers were installed in Panels 3, 4, and 6. However, the Permittees would not object to the NMED revising the definition of substantial barriers in Permit Part 1, Section 1.5.13, to indicate that substantial barriers were installed in Panels 3, 4, and 6.

*20. *Please suggest new Permit language to specifically ensure NMED participation in audit team meetings (caucuses), as observers.*

RESPONSE: The proposed Permit text is below. Note that there will be times when private meetings between the audit team leader and his/her respective team or individual team members are required (e.g., to discuss Privacy Act related information, Personally Identifiable Information (PII), and/or business sensitive deliberations). These meetings will be scheduled separately from the routine daily audit team caucus. The attendance will be solely at the discretion of the audit team leader and the CBFO Quality Assurance Lead.

> C6-1 Introduction
>
> The Waste Isolation Pilot Plant (**WIPP**) Audit and Surveillance Program shall ensure that: 1) the operators of each generator/storage site (**site**) that plan to transport transuranic (**TRU**) mixed waste to the WIPP facility conduct testing of wastes in accordance with the current WIPP Waste Analysis Plan (**WAP**) (Permit Attachment C), and 2) the information supplied by each site to satisfy the waste screening and acceptability requirements of Permit Attachment C, Section C-4 of the WAP is being managed properly. The U.S. Department of Energy (**DOE**) will conduct these audits and surveillances at each site performing these activities in accordance with a standard

operating procedure (**SOP**). The New Mexico Environment Department (**NMED**) personnel may observe these audits and surveillances to validate the implementation of WAP requirements ~~(Permit Attachment C)~~ at each site. The NMED may participate in the routine daily audit team caucus as observers. Only personnel with appropriate DOE ~~U.S. Department of Energy~~ clearances will have access to classified information during audits. Classified information will not be included in audit reports and records. The audit SOP will contain steps for selecting audit personnel, reviewing applicable background information, preparing an audit plan, preparing audit checklists, conducting the audit, developing an audit report, and following up audit deficiencies. A deficiency is any failure to comply with an applicable provision of the WAP. The checklists for each site shall include, at a minimum, the appropriate checklists found in Tables C6-1 through C6-4 for the summary category groups undergoing audit.

*21. *Please suggest new Permit language to ensure applicable elements of the enhanced acceptable knowledge (AK) processes ((such as the Basis of Knowledge (BOK) and chemical compatibility requirements)), developed as a result of the December 2014 Administrative Compliance Order (ACO) and outlined in Appendix H of the DOE WAC, will continue.*

RESPONSE: The enhanced AK process is required by the WIPP Documented Safety Analysis (DSA) Chapter 18. The DSA addresses nuclear safety. The enhanced AK process is communicated to generator/storage sites through the WIPP WAC. The primary elements of the enhanced AK process in the DSA are Acceptable Knowledge Assessments (AKA), Basis of Knowledge (BoK) and enhanced chemical compatibility. The AKA and BoK elements of the enhanced AK process address nuclear safety (hazards analysis/accident scenarios pertaining to radiological aspects of the waste). The chemical compatibility element of enhanced AK specifically addresses chemical constituents including applicable RCRA hazardous waste constituents. Therefore, the applicable element of the enhanced AK process (WIPP DSA Key Element 18) is chemical compatibility pursuant to Permit Part 2, Section 2.3.3.4. The following Permit language is proposed:

C-5a(2) Examination of the Waste Stream Profile Form and Container Data Checks

The Permittees will also verify that three different types of data specified below are available for every container holding TRU mixed waste before that waste is managed, stored, or disposed at WIPP: 1) an assignment of the waste stream's waste description (by Waste Matrix Codes) and Waste Matrix Code Group; 2) a determination of ignitability, reactivity, and corrosivity; and 3) a determination of compatibility. The verification of waste stream description will be performed by reviewing the WWIS for consistency in the waste stream description and WSPF. The CIS will indicate if the waste has been checked for the characteristics of ignitability, corrosivity, and reactivity. ~~The final verification of waste compatibility will be performed using Appendix C1 of the WIPP RCRA Part B Permit Application (DOE, 1997), the compatibility study.~~ Chemical compatibility will be evaluated pursuant to Permit Part 2, Section 2.3.3.4 (as applicable), on a waste stream basis based on guidance provided in the 1980 EPA method, EPA-600/2-80-076. The evaluation will be documented (e.g., chemical compatibility evaluation memorandum).

*22. *Please suggest new Permit language to clearly define NMED's ability to suspend waste shipments to WIPP for good cause if human health or the environment is at risk.*

RESPONSE: The NMED already has the statutory authority to suspend receipt of waste shipments at the WIPP facility if there is evidence of an imminent hazard to human health or the environment. Specifically, the New Mexico Hazardous Waste Act defines the authority of the Secretary to take action in the event of an imminent, hazard as shown in the excerpt below (2006 New Mexico Statutes, Chapter 74, Article 4). This Act is appropriately cited in Permit Part 1, Section 1.1, *Authority*. Therefore, the Permittees are not proposing changes to the Permit.

> *74-4-13. Imminent hazards; authority of director; penalties.*
>
> *A. Notwithstanding any other provision of the Hazardous Waste Act [74-4-1 NMSA 1978], whenever the secretary is in receipt of evidence that the past or current handling, storage, treatment, transportation or disposal of solid waste or hazardous waste or the condition or maintenance of a storage tank may present an imminent and substantial endangerment to health or the environment, he may bring suit in the appropriate district court to immediately restrain any person, including any past or present generator, past or present transporter or past or present owner or operator of a treatment, storage or disposal facility, who has contributed or is contributing to such activity, to take such other action as may be necessary or both. A transporter shall not be deemed to have contributed or to be contributing to such handling, storage, treatment or disposal taking place after such solid waste or hazardous waste has left the possession or control of such transporter if the transportation of such waste was under a sole contractual arrangement arising from a published tariff and acceptance for carriage by common carrier by rail and such transporter has exercised due care in the past or present handling, storage, treatment, transportation and disposal of such waste. The secretary may also take other action, including but not limited to issuing such orders as may be necessary to protect health and the environment.*

*23. *Please suggest new Permit language for adding the Generator Site Technical Review (GSTR) requirements, developed as a result of the ACO, into the Permit to include final actions on GSTRs (evidence given of issues resolved or status) to be included in final audit reports.*

RESPONSE: The DOE CBFO performs reviews of generator site activities. These GSTRs are stand-alone reviews/evaluations independent of those performed by other organizations (e.g., CBFO, NTP, CBFO Quality Assurance, Certified Programs, DOE-HQ, etc.). They are performed to evaluate processes that can affect the integrity of the TRU waste certification program to ensure that adequate controls are in place to protect the WIPP facility from an event occurring within TRU waste containers at the WIPP facility. GSTRs are not intended to duplicate or replace Permit-required certification audits, but rather are focused on activities not included in the certified programs. GSTRs may include non-WAP RCRA related activities at respective generator sites, such as TRU-mixed waste treatment activities, that may impact compliance of the waste destined for the WIPP facility. GSTRs are accomplished through site visits and reviews of site program implementing documents.

GSTRs also cover non-Permit related activities such as Conduct of Operations and procurement. Activities such as these are governed by DOE Orders. Per DOE/WIPP-16-3564, *Generator Site Technical Review Procedure*:

> *The review will focus primarily on the DOE self-regulated requirements which include, but are not limited to, the following: DOE Order (O) 435.1, Radioactive Waste Management; DOE O 422.1, Conduct of Operations; and DOE O 226.1B, Implementation of Department of Energy Oversight Policy.*

Furthermore, the WAP already includes specific procedures to address potential nonconformances at generator/storage sites regardless of how they are identified (e.g., through GSTRs, audits, assessments). These methods are described in detail in Permit Attachment C3, Section C3-7, as excerpted below with minor modifications. The Permittees encourage identification of nonconforming items through the WAP. The activities used to identify potential nonconforming items are broad and may include oversight activities such as GSTRs. Procedures that implement generator site audits and assessments require that nonconforming items or nonconforming activities be documented and, when appropriate, subjected to the DOE corrective action process in Permit Attachment C3, Section C3-7. Accordingly, the additional language proposed below clarifies the process to address WAP-related deficiencies identified during GSTRs or any other activity that may identify potential nonconformances with the WAP.

> C3-7 Nonconformances
>
> The nonconformances and corrective action processes specified in this section describe procedures between the Permittees and the generator/storage sites as the means to control and disposition nonconforming items and nonconforming activities.
>
> Nonconformances
>
> Nonconformances are uncontrolled and unapproved deviations from ~~an~~any applicable approved plan or procedure. Nonconforming items and nonconforming activities are those that do not meet the WAP requirements, procurement document criteria, or approved work procedures. Nonconforming activities shall be identified and noted in applicable generator site corrective action documents. Nonconforming items shall be identified by marking, tagging, or segregating, and the affected generator/storage site(s) notified. Any waste container for which a nonconformance report (**NCR**) has been written will not be shipped to the WIPP facility unless the condition that led to the NCR for that container has been dispositioned in accordance with DOE's Quality Assurance Program Description (**QAPD**). Disposition of nonconforming items or nonconforming activities shall be identified and documented. The QAPjPs shall identify the person(s) responsible for evaluating and dispositioning nonconforming items or nonconforming activities and shall include referenced procedures for handling them. For each container selected for confirmation pursuant to Permit Attachment C7, the Permittees will examine the respective NCR documentation to verify NCRs have been dispositioned for the selected container.
>
> Management ~~at all levels~~ shall foster a "no-fault" attitude to encourage the identification of nonconforming items and processes. Nonconformances may be detected and identified by anyone performing WAP activities or non WAP RCRA related activities (i.e., site specific reviews and assessments affecting WIPP Permit compliance), including

- Project staff - during field operations, supervision of subcontractors, data validation and verification, and self-assessment

- Testing Facility staff - during the preparation for and performance of laboratory testing; calibration of equipment; QC activities; data review, validation, and verification; and self-assessment

- QA personnel - during oversight activities or audits

Because the WAP includes specific procedures and methods for identifying and dispositioning potentially nonconforming items and nonconforming activities, regardless of how they are identified, additional language specific to GSTRs does not need to be included in the Permit.

*24. *Please review and determine an appropriate GSTR frequency and schedule for the generator sites, to be shared with NMED, and suggest language to be added to the Permit to capture this.*

RESPONSE: The Permittees have no set schedule or frequency for performing GSTRs. Instead, they are conducted on an as needed basis. As stated in the response to Item 23, any negative results (e.g., NCR, CAR) from a GSTR or any other site-specific audit or assessment that impacts compliance with the WIPP WAP is required to be documented in applicable generator site corrective action documents and managed in accordance with the DOE Corrective Action process in Permit Attachment C3, Section C3-7.

The frequency and scheduling of GSTRs is dependent on several factors as described in DOE/WIPP-16-3564 (GSTR Procedure) and DOE/WIPP 07-3372 (DSA).

- An initial review is required to be performed at each generator site before shipping TRU waste.

- Level 1 reviews are initial reviews that are broad in scope (addressing restart of processing operations or after corrective actions for significant deficiencies).

- Level 2 reviews are limited scope reviews tailored to, for example, to new processes or other items that are of specific interest to CBFO and NWP.

The frequency/periodicity of GSTR after Level 1 reviews is dependent on new processes and/or adverse situations identified at a given site. Adverse conditions or concerns are typically identified by CBFO NTP TRU Waste Certification Managers.

The Permittees are not suggesting language pertaining to frequency and schedule because GSTRs cover non-Permit related programs/activities and are currently evaluated and scheduled as needed. The Permittees will advise the NMED of GSTRs.

*25. *Please suggest a method, and language for the Permit, for insuring GSTR issues identified are resolved at generator sites and the evidence of such resolutions is communicated back to the Permittees, with this information being included in final audit reports.*

RESPONSE: In addition to the information provided by the response to Item 23, the following language is being proposed to Permit Attachment C6, Section C6-4, *Audit Conduct*, to ensure that issues, which are identified by site-specific reviews and assessments, are included in the final audit reports.

C6-4 Audit Conduct

The site personnel will be given the opportunity to correct any deficiency that can be corrected during the audit period. Deficiencies and observations will be documented and included as part of the final audit report. Deficiencies and observations from site-specific reviews and assessments affecting WIPP Permit compliance may also be included in the final audit report. Those items that have been resolved during the audit (isolated deficiencies that do not require a root cause determination or actions to preclude recurrence), will be verified prior to the end of the audit, and the resolution will be described in the audit report. Those items that affect the quality of the program, and/or the data generated by that program, which are required by the WAP will be documented on a Corrective Action Report (**CAR**) and included as a part of the final audit report. The CAR will be entered into the DOE's CAR tracking system and tracked until closure. Resource Conservation and Recovery Act~~RCRA~~-related items will be uniquely identified within the CAR tracking system so that they can be tracked separately. Resource Conservation and Recovery Act~~RCRA~~-related CARs identified by the site during self-audits will be evaluated during the DOE's audit and surveillance program and tracked in the DOE's CAR tracking system~~systems~~.

*34. *Since the project plans to submit a new Shielded Container modification to the Permit, preferably after the Renewal process has concluded, further reducing the need to process RH waste on site, please provide the rationale for keeping the RH hot cell in place at the facility.*

RESPONSE: The Permittees did not propose changes to the Hot Cell in the Renewal Application nor has a new Shielded Container PMR been submitted to the NMED. The Permittees object to any inclusion or reference to a new shielded container PMR in the Administrative Record for Renewal.

The Permittees plan to continue to implement two RH waste processes, utilizing either Removable Lid Canisters (RLCs) or Shielded Containers. The capability to receive RLCs at WIPP must be maintained to accommodate future RH waste inventory from various generator sites. The RH waste process utilizes a large portion of the Hot Cell Complex to perform this process. The Cask Unloading Room, Canister Transfer Cell and Facility Cask Loading Room, all part of the Hot Cell Complex, must be maintained to support this process. Therefore, the Hot Cell must be kept in place. In addition, the Hot Cell becomes part of the WIPP Permanent Marker System after closure. See updated RLSO Permit Attachment G, Section G-1d(2), excerpt below:

> *If, as is currently projected, the WIPP facility is dismantled at closure, ~~all~~ surface ~~and subsurface~~ facilities (except the hot cell portion of the WHB, which will remain as an artifact of the Permanent Marker System [**PMS**]) will be disassembled and either salvaged or disposed in accordance with applicable standards.*

*35. *Please provide the rationale for the proposed removal of descriptive text relating to aisle spacing between the west wall of the CH Bay and facility pallets in Permit Attachment A1, Section A1-1c(1).*

RESPONSE: The Permit requires aisle spacing be maintained at a minimum of 44 in. (1.1 m) between loaded facility pallets. Permit Attachment A1, Section A1-1c(1), requires "An aisle space of 60 in. (1.5 m) will be maintained between the west wall of the CH Bay and facility pallets." The deletion of the text relating to aisle spacing between the west wall of the CH Bay and facility pallets is needed to ensure consistency in the Permit, as it relates to aisle spacing.

This change is also reflected in Permit Attachment E, Table E-1, footnote "*q*".

This change is consistent with 40 CFR 264.35, *Required aisle space*, which requires maintenance of "…aisle space to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the facility operation in an emergency…" Forty-four inches allows for the unobstructed movement required by 40 CFR 264.35. Therefore, there is no reason to maintain 60 in. between the wall of the CH Bay and loaded facility pallets. This change will allow for more efficient use of the storage space in CH Bay.

*36. *Please provide any administrative or editorial updates or additional technical information necessary to the Renewal Application as appropriate, for example edits related to the explanatory matrix submitted with the updated redline strikeout for the Renewal Application.*

RESPONSE: On December 17, 2017, the NMED requested an updated RLSO for the renewal application adding those modifications requested in the Class 3 PMR for Panels 11 and 12. Subsequent to the submittal of the Renewal Application on March 31, 2020, some Class 1 Permit Modification Notifications were submitted to the NMED along with the Class 2 PMR, *Update Panel 8 Volatile Organic Compound Room-Based Limits*. These modifications were incorporated into the Permit. In the RLSO requested from the NMED, some changes could not be directly carried over from the Class 3 PMR for Panels 11 and 12 due to the adjudication of the Class 2 PMR and the incorporation of the Class 1 modifications. The changes below address the Permit language that could not be carried over into the RLSO.

See edits to the updated RLSO (March 2022) below with the respective explanation for the changes. The suggested edits are in yellow highlight.

A. To be consistent with the Permit language that describes nominal panel dimensions for Panels 1-7 and for Panel 8, the following text is proposed to include the nominal dimensions for Panels 11 and 12.

A2-2a(3) Subsurface Structures

Underground Hazardous Waste Disposal Units (HWDUs)

Main entries and cross cuts in the repository provide access and ventilation to the HWDUs. The main entries link the shaft pillar/service area with the TRU mixed waste management area and are separated by pillars. Each of the ~~Underground~~ underground

HWDUs labeled Panels 1 through 8, 11, and 12 will have seven rooms. The locations of these HWDUs are shown in Figure ~~A2-1~~M-43. The rooms in Panels 1-7 ~~will~~ have nominal dimensions of 13 ft (4.0 m) high by 33 ft (10 m) wide by 300 ft (91 m) long and ~~will be~~ are ~~supported~~ separated by 100 ft (30 m) wide pillars. The rooms in Panel 8 ~~will~~ have nominal dimensions of 16 ft (5.0 m) high by 33 ft (10 m) wide by 300 ft (91 m) long and ~~will be~~ are ~~supported~~ separated by 100 ft (30 m) wide pillars. The rooms in Panel 11 and Panel 12 will have nominal dimensions of 14 ft (4.3 m) high by 33 ft (10 m) wide by 300 ft (91 m) long and will be separated by 100 ft (30 m) wide pillars.

B. The proposed change below corrects the "Note" number that was caused by consolidating the 2020 renewal RLSO onto the Permit. This change is required due to a Class 1 PMN submitted subsequent to submittal of the Renewal Application.

Table G-1

Anticipated Earliest Closure Dates for the Underground HWDUs

~~NOTE 1: The time to close these areas may be extended depending on the nature and extent of the disturbed rock zone. The excavations that constitute these panels will have been opened for as many as 40 years so that the preparation for closure may take longer than the time allotted in Figure G-2. If this extension is needed, it will be requested as an amendment to the Closure Plan.~~

NOTE ~~2~~: For the purposes of preparing the closure schedule, the "Operations Start" date for each additional HWDU is the same as the "Operations End" date of the immediately prior HWDU. The "Operations End" date for each additional HWDU is 30 months after the "Operations Start" date. The "Closure Start" date for each additional HWDU is 1 month after the "Operations End" date. The "Closure End" date for each additional HWDU is 6 months after the "Operations End" date.

C. To be consistent with the Permit language that describes nominal panel dimensions for Panels 1-7 and for Panel 8, the following text is proposed to include the nominal dimensions for Panels 11 and 12.

N-1a Background

The ~~Underground~~ underground HWDUs are located 2,150 feet (ft) (655 meters [m]) below ground surface at the WIPP facility~~, in the WIPP underground~~. ~~As defined for this Permit, an~~ An ~~Underground~~ underground HWDU is a single excavated panel consisting of seven rooms and two access drifts designated for disposal of contact-handled (**CH**) and remote-handled (**RH**) ~~transuranic (**TRU**)~~ TRU mixed waste. Each room in Panels 1-7 is approximately 300 ft (91 m) long, 33 ft (10 m) wide, and 13 ft (4 m) high. Each room in Panel 8 is approximately 300 ft (91 m) long, 33 ft (10 m) wide, and 16 ft (5 m) high. Each room in Panel 11 and Panel 12 will be approximately 300 ft (91 m) long, 33 ft (10 m) wide, and 14 ft (4.3 m) high. Access drifts connect the rooms and have the same cross section. The Permittees shall dispose of TRU mixed waste in ~~Underground~~ underground HWDUs designated as Panels 1 through 8, 11, and 12.