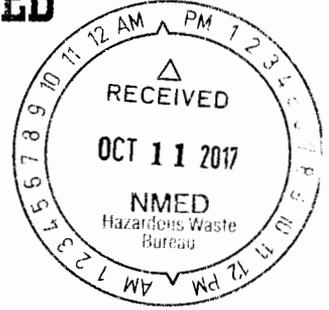




Department of Energy
 Carlsbad Field Office
 P. O. Box 3090
 Carlsbad, New Mexico 88221
OCT 06 2017

ENTERED



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

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

Reference: New Mexico Environment Department correspondence from John E. Kieling, Chief, Hazardous Waste Bureau to Todd Shrader, CBFO, and Bruce C. Covert, NWP, dated August 17, 2017, subject: Technical Incompleteness Determination, November 10, 2016 Response to July 22, 2015 Technical Incompleteness Determination on the March 18, 2013 Class 3 Permit Modification Request, Waste Isolation Pilot Plant, EPA I.D. Number NM4890139088

Dear Mr. Kieling:

Enclosed is the Permittees' response to the referenced Technical Incompleteness Determination. Enclosed are the following:

- Response to comments
- List describing editorial/format changes associated with enclosed redline-strike-out and clean copy versions of applicable portions of the Permit
- Compact disc including redline-strike out and clean copy versions of applicable portions of the Permit

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.

If you have any questions, please contact Mr. George T. Basabilvazo at 575-234-7488.

Sincerely,

Todd Shrader, Manager
 Carlsbad Field Office

Bruce C. Covert, Project Manager
 Nuclear Waste Partnership LLC

Enclosure (3)

cc: w/enclosure
 R. Maestas, NMED *ED
 D. Biswell, NMED ED
 CBFO M&RC
 *ED denotes electronic distribution



Enclosure 1
Response to Comments

Response to Comments

1. PMR Overview, p. 5; pdf p. 24:

The PMR states: “The bulkhead component of the WPC design functions as an effective closure system, since it prevents the active ventilation of filled panels. Active ventilation removes VOCs from the panels and entrains them in the underground exhaust air. This exhaust air serves as the only pathway for VOCs associated with the hazardous waste to pose a threat to human health or the environment.” These statements are not clear when compared to the Permittees’ Design Report which indicates that releases are not controlled by the bulkheads during active ventilation of the mine but by the release rates from individual waste containers (DOE-NWP 2016, Appendix E, p. E-159). Please provide clarification.

RESPONSE: The following is provided as a clarification to the Overview. The statement in the Overview is that bulkheads “prevent active ventilation”. This is consistent with the definition of a bulkhead in Permit Part 1, Section 1.5.14. and the description of bulkheads in Permit Attachment A2, Section A2-2a(3). Active ventilation can be thought of as ventilation in a room, area, or building, designed to control contaminant levels within the structure by dilution and removal. In the WIPP facility underground, active ventilation is only needed for areas where human activity is underway or anticipated. In other areas, active ventilation is blocked, and although ventilation leakage may occur, it is not intended to control contaminants by dilution and removal.

The paragraph referred to in the Overview is merely establishing that the ventilation air pathway is the only pathway of concern with regard to the impacts of volatile organic compounds (VOCs) on human health. The majority of the VOCs that are emitted from the containers of waste are entrained in the ventilation airstream and are removed from the mine creating an exposure pathway for surface non-waste workers. The rate at which VOCs are emitted from the mine are a direct function of the ventilation flow rate. However, there is another mechanism that controls the rate of emission from the waste container. This is gaseous diffusion of VOCs through the container filter. Volatile organic compounds will migrate from the containers as long as the concentration outside the container is less than the concentration within the container. For the purposes of modeling, the ventilation leakage in the closed disposal room is assumed to maintain this gradient (i.e., no VOC source depletion is assumed) so that VOCs continue to migrate out of the containers.

An important consideration in the modeling is how VOCs become entrained in the airstream and at what concentration, when the ventilation to the disposal room is significantly reduced by a bulkhead. There are two options for modeling these emissions. One is that the disposal areas are sealed such that there is no ventilation air passing through them. In this case, which will be achieved for the closures that use the run-of-mine salt component, the disposal area will reach an equilibrium concentration equal to the average of the concentration in the disposed containers.

Once equilibrium is reached, the only mechanism to cause VOCs to leave the disposal area is internal pressure that results from the creep closure of the room and the generation of gases within the containers as waste decomposes. These phenomena result in very small emissions around the closures.

Another way to model the emissions from closed disposal areas is to assume some leakage rate associated with the bulkheads. Since this is observed in the facility with day-to-day bulkhead use, it is more realistic. This is the ventilation characteristic that the Permittees' Design Report is addressing for Cases 2, 3, and 4. The Permittees' Design Report indicates that because the bulkheads are not seals, equilibration will not occur and containers will continue to emit VOCs. This approach allows the Permittees to estimate a VOC concentration over time for the purpose of modeling the emissions from closed disposal areas.

2. PMR Appendix E, Golder Design Report, p. E-28; pdf p. 494:

The PMR Design Report states: "Based on the calculations of thermal runaway due to nitrate salt-bearing waste, the WPC design requires that the distance between the waste container and the steel bulkhead is at least 22 feet." The cited minimum separation distance between the waste container and the steel bulkhead is based on the exothermic event in Room 7, Panel 7, involving a single waste container (September 30, 2014 Information Regarding the WIPP Nitrate Salt Isolation Plan, Attachment B, Evaluation of Thermal Effects on Panel Closures from Heat Event, Gross 2014b). The adopted design thermal runaway event conservatively consists of the simultaneous ignition of three drums and would result in a greater release of radiant energy than ignition of a single drum (DOE-NWP 2016, p. 13 and p. E-18). Please provide documentation demonstrating that the specified minimum separation distance of 22 feet is sufficient to maintain bulkhead functionality when subjected to the heat effects of the design thermal runaway event, or provide an acceptable alternative specification.

RESPONSE: The Permittees' Design Report references the "WIPP Nitrate Salt Bearing Waste Container Isolation Plan, Revision 2" (Isolation Report). The three calculation notes in the Isolation Report document the expected performance of the bulkhead should another thermal runaway occur. The Isolation Report was written specifically for Panel 6 and Panel 7, Room 7. At the time, the proposed closure included an inbye and outbye bulkhead. The inbye bulkhead was assumed to be at least 22-feet from the waste based on the distance of the bulkheads in Panels 3 and 4 from the waste face. Attachment B of the Isolation Report points out that thermal effects on plastic materials (specifically melted slipsheets and melted MgO supersacks) from a one-drum event were seen about 25-feet downwind from the source of the heat. This indicates that the inbye bulkhead could be affected by a three-drum event under the right conditions (such as the event occurring at the waste face). However, the steel bulkhead is expected to remain intact under a three-drum event because steel is more resistant to melting (and thermal effects in general) than plastic and because the flashing between a steel bulkhead and the rock walls is flame-resistant, as noted below.

More importantly, the offset no longer matters with regard to the three-drum heat event in Panels 6 or 7 for the following reasons:

- The Permittees plan to close Panel 6 by placing bulkheads near the intersections of the panel entries and the mains, or in the mains themselves, without the installation of additional bulkheads in Panel 6. In this configuration, the closure bulkheads are at least two hundred feet (the length of a panel access drift) from the closest waste containers in Room 1 of Panel 6. Given this large standoff distance, thermal effects on the closure bulkheads will be negligible for a three-drum event.
- The Permittees plan to close Panel 7 by placing bulkheads near the intersections of the panel entries and the mains, which will be two hundred feet from any nitrate salt bearing waste. Given this large standoff distance, thermal effects on the closure bulkheads for Panel 7 will also be negligible for a three-drum event.
- The Permittees have changed the waste characterization program to prevent a recurrence of the thermal runaway conditions. That is, an oxidizer like nitrate salt bearing waste will not be combined with an organic desiccant that could provide the reactants for a thermal runaway reaction.
- Per the Isolation Plan, Attachment B, Page 10, the flashing component of the closure, which is the only portion that could burn, is Mine Safety and Health Administration approved flame-resistant material.

An alternative specification is not needed for the minimum separation of the waste from an inbye bulkhead because inbye bulkheads will not be installed in Panels 6 or 7 and because the off-set distance of 22-feet is not used in the Permittees' Design Report except that it is specified for use by the geotechnical engineer who has to make decisions regarding placement of the closure components.

3. **PMR Overview, p. 2; pdf p. 21:**

The PMR states "These roof falls are likely to continue since the areas will not be maintained once the closures are in place." Roof falls should therefore be considered an 'expected ground condition' under WPC Design Requirement 7. Analysis of the functionality of an ROM salt closure plug in the Design Report assumes progressive settlement of an intact roof beam and does not appear to consider the likelihood of a roof fall occurring above the ROM salt during the 17- to 31-year period when an air gap exists between the salt plug and the drift roof. The stresses on the ROM salt and in the drift roof will not be the same following a roof fall as compared with those associated with progressive downward movement of an intact beam. Please provide an assessment of the extent to which these differences could affect the plug length, consolidation, and air gap closure of the ROM salt.

RESPONSE: Regarding Requirement 7, the consideration of ground conditions is specified to assure safe working conditions during closure installation. That means, the threat of an immediate roof fall must be remediated in order to assure the safety of the workers. Remediation may include bolting, roof removal, or selection of an optimum portion of the entry for the closure.

Consideration for a subsequent roof fall is captured in Requirement 10: "*structural analysis shall use data acquired from the WIPP underground.*" The Permittees' Design Report uses WIPP underground creep closure data in the development of the run-of-mine (ROM) salt requirements.

Based on modeling performed for the Permittees' Design Report, the geometry of mine entries and the surrounding stress field is expected to be affected by roof falls. The roof fall impacts, however, are expected to be minimal in areas with the ROM salt installation due to limited space between the ROM salt and the surrounding rock mass (the maximum predicted air gap is only 12 percent of the entry height) and due to the fact that the ROM salt acts as a visco-elasto-plastic support providing a level of confinement which reduces the risk against sizable roof falls. The ROM salt performance in the W-30 entry (Zimmerly and Zavicar 2012) indicates that the air-gap is likely to be smaller than predicted by numerical models (a relatively small or no air gap was observed between the ROM salt and the surrounding rock mass in 2015 during the block wall inspection) supporting the observation of a relatively low potential for roof falls in the ROM salt areas. In the event of bed separation causing the immediate roof to fail the most likely scenario is that the separated material will settle on the ROM salt with a minimal air gap above the separation. Stresses in the immediately overlying material will be modified, but closure of the separated material and ROM salt will still occur providing the needed load for salt consolidation. The only likely effect will be densification of the ROM salt due to the roof fall impact (causing an increase in the ROM salt fractional density on the order of 8 percent of less) followed by a delay in creep driven consolidation. While the ROM salt might exhibit limited deformation in the longitudinal direction (a fraction of the vertical deformation which is estimated to be less than 10 percent), the length of ROM salt required for the WPC-B construction is not likely to be affected by roof falls.

4. PMR Overview, p. 17; pdf p. 36:

The section entitled "Revision to Remove On-Going Disposal Room VOC Monitoring." states that VOC monitoring is no longer needed as panel closures are installed and closure performance standards are applied. However, the text as written could be interpreted to imply all VOC monitoring will be discontinued regardless of the timing of each individual panel closure. Please clarify in your response whether disposal room VOC monitoring will be discontinued for each individual panel only when that panel closure is installed, and clarify the timing of the elimination of disposal room VOC monitoring.

RESPONSE: The Permit Part 4, Section 4.6.3. requires the Permittees to conduct Room-Based VOC monitoring to protect underground workers from an acute exposure to VOCs while a hazardous waste disposal unit (HWDU) is being filled with waste. Once waste emplacement is completed, the Ongoing Disposal Room VOC Monitoring (ODRVM) is required by Permit Part 4, Section 4.4.3. to protect underground workers for HWDUs that are filled, but have not been closed or do not have explosion-isolation walls in place. Sampling under the ODRVM program continues until panel closure is initiated. This measure was included in the Permit to provide protection for workers in the vicinity of filled panels for which completion of final closure has been deferred (awaiting approval of a modified panel closure design). Once the final closure design is approved, the Permittees do not anticipate any further deferrals of panel closure. That is to say, panel closure will begin within 30-days of placing the last waste in the panel. At this time, Room-Based VOC Monitoring will be discontinued in the panel. Therefore, the PMR proposes the deletion of the ODRVM since it will no longer be needed. There is a schedule in Permit Attachment G, Table G-1 that provides the anticipated dates for panel closure.

5. PMR Appendix B, Attachment G, Section G-1a(1), p. B-31; pdf p. 79:

The Permittees replaced established free release limits of less than 20 disintegrations per 100 square centimeters (dpm/100 cm²) for alpha radioactivity and less than 200 dpm/100 cm² for beta-gamma radioactivity for contaminated container storage units with a statement that DOE-established radiological protection limits would be used. This change was not discussed by the Permittees and it is not clear why the change was made. The DOE-established radiological protection limits do not appear to be defined. Although the Permit does not specifically regulate radionuclides it does have an obligation to ensure that the repository is able to function for the disposal of CH and RH mixed waste. Please clarify why the free release limits were eliminated and replaced with a non-specific limit.

RESPONSE: The release limits were deleted because they are delineated separately through the DOE radiological control program and are not specified by the RCRA regulations. Any changes to the radiological control program should only impact WIPP standard operating procedures and should not drive a Permit modification. The revised language that specifies limits established by the DOE assures current protection and proper functioning. The DOE is the agency charged by statute to determine and establish protective limits. Such limits can be established for individual situations and facilities depending on conditions and circumstances. The general reference to “DOE-established radiological protection limits” is equivalent to how other non-RCRA regulations such as those established by the Mine Safety Health Administration are dealt with in the Permit.

6. PMR Appendix B, Attachment G, Section G-1a(1), p. B-31; pdf p. 79:

The Permittees eliminated the following permit language related to Solid Waste Management Units: “In the event portions of these units which require decontamination cannot be decontaminated, these portions will be removed and the resultant wastes will be managed as appropriately.” Please provide justification why this text was removed from the Permit.

RESPONSE: The language that was deleted applies to the above ground storage areas. However, the text is easy to misinterpret to include decontamination or removal of portions of the Hazardous Waste Disposal Units in the underground since these are listed in Table K-4. Instead, Permit Attachment G, Section G-1e(3) is sufficiently detailed to assure the removal of contaminated equipment, facilities or surfaces in the Container Storage Units above ground and it does not need to be repeated here.

7. PMR Appendix B, Attachment G, Section G-1d(2), p. B-35; pdf p. 83:

The Permittees eliminated the reference WIPP Facility Safety Analysis Report as the source of the DOE policy to develop a final D&D plan. However, there was no given policy reference to ensure that this D&D plan will be developed. Please explain why the policy reference is not needed in the Permit.

RESPONSE: The citation of the Final Safety Analysis Report (FSAR) is tied to a commitment in the Consultation and Cooperation Agreement with the State of New Mexico (C&C Agreement). The C&C Agreement specifies decontamination and decommissioning (D&D) as a Key Milestone that requires consultation with the state. Another portion of the C&C Agreement specified the contents of the FSAR to include a discussion of D&D in Chapter 3 in accordance with DOE practice at the time. The FSAR has been replaced with the Documented Safety Analysis (DSA). Previously, Chapter 16 of the DSA addressed D&D. The current DOE standard for the DSA no longer requires this discussion; therefore, it has been deleted in DSA Revision 5b. Therefore, the DSA/FSAR reference is no longer correct. DOE now has Orders (such as 430.1A) and Standards that address what is now referred to as “Deactivation and Decommissioning”. A specific policy reference is not needed and a reference to general policy is appropriate.

8. PMR Appendix B, Attachment G, Section G-1(e)1, p. B-37; pdf p. 85:

The Permittees eliminated the design requirement for the panel closure system in the first bullet to ensure that the VOC concentrations at the point of compliance will be mitigated to be at least an order of magnitude below the limits at the point of compliance. Please explain why this design requirement is no longer needed.

RESPONSE: The “order-of-magnitude” should not be interpreted as a change to the environmental performance limits established by the Permit. It was a design goal established to address uncertainty associated with air dispersion modeling and with VOC monitoring in the underground. In essence, this design goal limited the contribution from closed panels only and did not affect other sources of VOCs such as open panels. Previously, the performance limits at the nearest resident or the WIPP Site Boundary were not specified in the Permit except in a general statement in Permit Attachment G1, Section 1.3.2: “Worker exposure to VOCs, and VOC emissions to non-waste workers or to the nearest resident will not pose greater than a 10^{-6} excess cancer risk in order to meet health-based standards.” However, when the Permit was issued, the NMED applied a cumulative excess cancer risk of 10^{-5} to non-waste workers on the surface. In order to clarify the limits for the nearest resident, the Permittees are proposing to add the referenced health-based limits to Permit Part 6. As explained in the TID Response, these limits are based on a 10^{-6} excess cancer risk or a Hazard Index of 1, depending on which provides the greatest protection. Because the specific limits are provided, the general limit, which is incorrect for the non-waste surface worker, is deleted. In addition, the use of surface sampling at Station VOC-C removes much of the uncertainty associated with monitoring and air dispersion modeling. Furthermore, the “order of magnitude” margin is unnecessary since the health-based limits themselves are adequately protective.

9. PMR Appendix B, Attachment G, Section G-1e(3), p. B-39; pdf p.87:

Provide clarification concerning “fixing” of contamination to address current practices used at the WIPP.

RESPONSE: It is described in Permit Attachment G, Section G-1e(3): “...or to fix the contaminants to the surface so they are not easily removable, ...” “Fixing” radiological contamination is added as an option to decontamination in cases where it is determined to be the

best alternative for protecting workers from radiological contamination. “Fixing” involves attaching the contaminants to the surface so they are not easily removed. This is accomplished by spraying the salt surface with a water mist and allowing it to dry and form a salt crust on top of the contaminants. In this manner, the contamination is not re-suspended into the airstream.

The Permittees propose the following redline/strikeout be added to the PMR text as a revision to Permit Attachment D, Section D-4f(1). This change is needed to clarify the use of water spray on salt surfaces as a fixative in the underground:

D-4f(1) Management and Disposition of Released Material

When a release of TRU mixed waste has occurred, priority is given to actions required to minimize radiological exposure to workers and the public. In most cases, these actions are sufficient to mitigate any health effects associated with contamination by hazardous waste or hazardous waste constituents.

If a release of site-generated hazardous waste occurs, the contaminated surface will be cleaned, and decontamination materials will be placed in containers and dispositioned appropriately. If the release is TRU mixed waste, decontamination and disposition will be in accordance with the RWP.

If radioactive contamination is detected on equipment or on structures, radiological cleanup standards will be used to determine the effectiveness of decontamination efforts and/or the final disposition of the equipment or structures. Many types of equipment are difficult to decontaminate and may have to be discarded as derived waste. Fixatives (e.g., paint or water spray on salt in the underground) may be used on contaminated structures if the contamination cannot be safely removed.

10. PMR Overview, p. 14; pdf p. 33, #6:

“Unexplained increases in the concentrations of VOCs measured by the Repository VOC Monitoring Program may indicate bulkhead deterioration and will trigger bulkhead inspections.” Please indicate the actions the Permittees intend to take to address this.

RESPONSE: The Permit Part 4, Section 4.6.2.3. currently defines VOC cumulative risk levels that trigger remedial actions on the part of the Permittees with regard to Repository VOC monitoring. Levels that approach or exceed the action levels indicate an increasing source of VOCs in the underground. In order to address these increasing levels and to protect human health, the Permittees are required to implement remedial actions as defined in the current Permit Part 4, Section 4.6.2.4. There are essentially two sources for increases in VOC concentrations: the waste being disposed in the active HWDU or leakage from closed HWDUs due to bulkhead deterioration. Since the bulkheads are accessible until waste is placed in front of them, they can be inspected to determine if they need to be repaired or replaced to mitigate VOC emissions.

11. PMR Overview, p. 14; pdf p. 33, #8:

Explain further as to why design requirement “IIIb” is obsolete.

RESPONSE: When the Permit Application was submitted, WIPP facility structures were designed to meet DOE design and quality assurance (QA) requirements specified in DOE Order 6430.1, *General Design Criteria*. WIPP facility structures were evaluated against the Design Classification System Criteria. Application of these criteria identified the underground area of the repository as a Design Class IIIb nonreactor nuclear facility. The design class designations were defined for categorizing structures, systems, and components in accordance with the importance of their function relative to health and safety of the public and on-site personnel during plant operations.

With regard to Design Class IIIb, Permit Attachment A1, Table A1-1, footnote g states “Design of underground structures, mining equipment, and facilities are basically governed by the MSHA and experience in local mines.” In place of the Design Class IIIb designation, the text simply reflects the MSHA requirement for underground stoppages.

12. General:

The October 29, 2013 Permittee Response to NMED Technical Incompleteness Determination, Appendix 1-A, included proposed changes to Permit Part 7, Section 7.3.2. The November 10, 2016 PMR does not contain this proposed change. It appears that this change is still appropriate.

RESPONSE: The Permittees propose the following redline/strikeout be added to the PMR text. This change is necessary because the access drifts will not be accessible after installation of the closure bulkheads and only some of the closure bulkheads will be accessible:

7.3.2. Post-Closure Care and Monitoring

7.3.2.1. General Monitoring, Inspection, and Maintenance Requirements

The Permittees shall monitor and perform inspections of the Underground HWDU closures, and perform maintenance of the ~~closed Underground HWDU access drifts after construction of each HWDU closure system, as specified in Permit Attachment A2 (Geologic Repository)~~ accessible bulkheads of the closures, as necessary. The Permittees shall monitor and maintain the components, structures and equipment of the waste containment systems at the facility as specified in Permit Attachments H and H1, and as required by 20.4.1.500 NMAC (incorporating 40 CFR § 264.117(a)(1)(ii)).

Enclosure 2
List of Changes

List of Changes

The Permittees are providing on a Compact Disc (Enclosure 3) a redline/strikeout and clean copy versions of the applicable portions of the Permit as requested in the August 17, 2017, Technical Incompleteness Determination (TID). During the development of these files, the Permittees identified and are proposing additional minor formatting changes (e.g., changing alpha numeric lists to bullets lists) and editorial changes (e.g., punctuation changes, acronym usage, adding/updating table of contents) to the Permit text that differed from, or were not included with, the redline/strikeout of the Permit text proposed in the revised Class 3 Permit Modification Request (submitted with the initial Technical Incompleteness response on November 16, 2016).

Additionally, changes were made to ensure consistency with the current Permit, which has been revised via Class 1 Permit Modification Notifications since November 16, 2016, and to address the changes proposed in the responses in Enclosure 1. These changes are described below.

Part 4, Section 4.5.1.

- Deleted closing quotation mark after reference to Permit Attachment A3.

Part 6

- Added page number change to *Table of Contents*.

Part 7

- Added markup of Section 7.3.2.1. to address response to TID Comment (12).

Attachment A2

- Added page marked “(This page intentionally left blank)” after text so tables start on the correct page.

Attachment A3

- Added page marked “(This page intentionally left blank)” as the last page to ensure an even number of overall pages.

Attachment D

- Deleted “(This page intentionally left blank)” on Page iii; it is not needed.
- Added markup of Section D-4f(1) to address response to TID Comment (9).

Attachment E

- Added page marked “(This page intentionally left blank)” as the last page to ensure an even number of overall pages.
- Provided redline/strikeout of Table E-1 against the current Permit text (as revised per December 6, 2016, and June 14, 2017, Class 1 Permit modifications).

Attachment G

- Added changes to *Table of Contents* and *List of Figures*. These were not included in the November 16, 2016 revised PMR.
- Added a period at the end of the paragraph following the bulleted list in Section G-1e(1).
- The EPA and VOC acronym callouts had been previously deleted; added acronym callouts at the new first instance used.
- Bolded PPE in acronym first use.
- Reversed deletion of period at the end of second sentence of first paragraph in Section G-1e(2)(c).
- Deleted “(This page intentionally left blank)” page after text; it is not needed.

Attachment G1

- Replaced *Table of Contents* with new format.
- Lowercased the word “contractor” in all instances except when part of a title, resulting in global changes throughout this file.
- Changed *List of Abbreviations/Acronyms/Units* title to *List of Abbreviations/Acronyms*.
- Added page marked “(This page intentionally left blank)” after *List of Abbreviations/Acronyms/Units*.
- Removed from the *List of Abbreviations/Acronyms/Units* any acronyms not used in text.
- G1-1, 1st paragraph, 1st line: bolded the WIPP acronym.
- G1-1, 1st paragraph, last line: (1) added comma after installation; (2) bolded WPC acronym.
- G1-1, 2nd paragraph, 2nd sentence: (1) defined and bolded VOC acronym; (2) deleted definition of WPC.
- G1-2b, 2nd paragraph, 4th sentence: added comma after the number 2.
- G1-3, 2nd paragraph: (1) made “Technical Specifications” in the last line lowercase.
- G1-4, 1st paragraph: Revise sentence to read, “The technical specifications are included in Attachment G1, Appendix G1-A, and are listed in Table G1-1.”

Attachment G1A

General Changes

- Developed new *Table of Contents* and *List of Tables*.
- Throughout the document, made changes to dashes to ensure consistency.
- Lowercased the following words in all instances except when part of a title, resulting in global changes throughout this file:
 - Drawings
 - Specifications
 - Contractor
 - Work Plan
 - Submittal Procedures
 - Reference Standards
- Redefined acronyms at the start of each section.
- Bolded several acronyms in the callouts to ensure consistent formatting.

Specific Changes

Section 01010

- Replaced alphanumeric lists with bulleted lists.
- 1.2, 1st paragraph: (1) spelled out WIPP and bolded the acronym, (2) bolded acronym WPC, and (3) added callouts for acronyms ROM and NWP and bolded both acronyms.
- 1.2, 1st list, item A: added comma after the number 2.
- 1st paragraph after 1st list: deleted callout for NWP and removed bolded format from the acronym.
- 1.2, 2nd list, item A: (1) deleted acronym callouts for HASP and CQCP, (2) added comma after HASP, and (3) added comma after CQCP.
- 1.2, 2nd list, item E: added comma after the number 7.
- 1.2, 2nd list, item F: added comma after the number 2.
- 1.3A: changed formatting to be consistent with current Permit.
- 1.3B: changed formatting to be consistent with current Permit.
- 1.4: changed formatting to be consistent with current Permit.
- 1.7: (1) added hyphen between “460” and “volt;” (2) added hyphen between “3” and “phase;” and (3) replaced the alpha list with bullet list.
- 1.8: lowercased the word “Sequence.”
- 1.9, 2nd sentence: added comma after the word “equipment.”
- 1.10: (1) bolded acronym JHA and (2) changed JHA reference from WP 12-111 to WP 12-1.

Section 01090

- 1.1: replaced alpha list with bulleted list.
- Multiple instances throughout the attachment: replaced “his” with “the contractor’s.”
- 1.3: changed formatting to be consistent with current Permit.

Section 01400

- 1.1, 1.2, 1.5, 1.6, 3.2, and 3.3: replaced alpha lists with bulleted lists.
- 1.2D: replaced 04100 with 03100.
- 1.3 1st line: deleted acronym callout and parentheses.
- 1.3 2nd sentence: bolded ROM.
- 1.4: changed formatting to be consistent with current Permit.
- 1.7: defined the acronym NWP.
- 1.8: numbered the section entitled *Submittals* to 1.9.
- 3.2A: deleted acronym callout for CQCP.
- 3.2B: deleted acronym callout for CQCP.
- 3.2B1: bolded CQC acronym callout.
- 3.6: changed formatting to be consistent with current Permit.

Section 01600

- 1.1, 1.2, 1.5, 1.6, and 1.7: replaced alpha lists with bulleted lists.
- 1.2E: replaced 04100 with 03100.

- 1.3: defined the acronym WIPP.
- 1.4: defined acronyms ROM and NWP.
- 1.6: added periods to the end of all sentences in the list.

Section 02010

- 1.1 and 1.2: replaced alpha lists with bulleted lists.
- 3.1: defined acronyms NWP and WPC.
- 3.2: changed title to “Use of Site” to be consistent with current Permit.
- 3.2: deleted “his” in multiple places.
- 3.3: replaced alpha list with bulleted list.
- 3.3C: added hyphen between 460 and volt; added hyphen between 3 and phase.
- 3.3, 1st paragraph after list and last paragraph of section: replaced “his” with “contractor.”
- 3.4: replaced “his” with “contractor.”

Section 02222: added numbering. This section did not have any heading numbering.

- 1.1 and 1.2: replaced alpha lists with bulleted lists.
- 1.1 list: (1) replaced A and C with the exact titles from text and (2) capitalized all listed items for consistency with other sections.
- 1.4: defined NWP.
- 3.1: defined WPC and ROM.
- 3.1: deleted the comma after “removing loose material.”

Section 03100

- 1.1: changed the “A” to a bullet and capitalized “placement.”
- 1.2: replaced alpha list with bulleted list.
- 1.3: defined NWP.
- 1.4 defined CQCP.
- 2.1 defined ROM.
- 3.1: added comma after 01010.
- 3.2: lowercased “Salt” in three places.

Section 03200

- 1.1: changed the “A” to a bullet and capitalized “bulkhead” and “installation.”
- 1.2: replaced alpha list with bulleted list.
- 1.3: defined NWP.
- 1.4: defined CQCP.
- 3.1: added comma after 01010.
- 3.3: defined HASP.
- 3.5: removed hyphen and made “noncompliance” one word for consistency with spelling in Section 01400.

Attachment H

- Deleted text “of the disposal unit” after “maintenance” in Section H-1.

- Added page marked “(This page intentionally left blank)” as the last page to ensure an even number of overall pages.

Attachment N

- Added page marked “(This page intentionally left blank)” after the acronyms and before the text.