

 ENTERED

**COMMENTS  
ON THE  
SECOND DRAFT  
HAZARDOUS WASTE PERMIT  
FOR THE  
WASTE ISOLATION PILOT PLANT**

**SUBMITTED BY  
THE U. S. DEPARTMENT OF ENERGY  
CARLSBAD AREA OFFICE  
AND THE  
WESTINGHOUSE ELECTRIC COMPANY  
WASTE ISOLATION DIVISION**

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## **1.0 EXECUTIVE SUMMARY**

The United States (or U. S.) Department of Energy (DOE) as the owner and operator of the Waste Isolation Pilot Plant (WIPP) and the Westinghouse Electric Company's Waste Isolation Division (WID), submit comments on the second draft Hazardous Waste Permit for the Waste Isolation Pilot Plant, issued by the New Mexico Environment Department (NMED) on November 13, 1998 (second draft). In order to assist the NMED and other interested parties in reviewing these comments, the DOE and WID (collectively referred to as the Permittees) have prepared this Executive Summary to highlight the issues that they believe are the most significant. This summary also explains how the comments are presented and organized. The Permittees are committed to working with the NMED to produce an appropriate permit for the WIPP and appreciate the significant work that went into preparation of the Second Draft.

### **1.1 Summary of Significant Issues**

The Permittees recognize that the Second Draft is a significant step forward in issuing a final hazardous waste facility permit for the WIPP. The NMED has successfully addressed many of the Permittees' concerns regarding the first draft, however, several issues remain which involve conditions that, if they are included in the final permit, would be inconsistent with RCRA, would adversely affect WIPP's ability to protect health and the environment, or would unreasonably burden facility operations. These are summarized in the following sections.

#### **1.1.1 Scope of the Permit (Modules II and IV and Attachment B)**

In several places in the permit, the NMED has imposed conditions on waste that do not contain hazardous waste as defined by 20 NMAC 4.1. and, therefore, are not subject to permitting. For example, in Module IV.B.2.b and in Section B, Introduction, page B-5, starting at line 21, the NMED requires that non-mixed TRU waste meet the requirements of the Waste Analysis Plan prior to being placed in the WIPP facility. Neither the Resource Conservation and Recovery Act (RCRA) nor the New Mexico Hazardous Waste Act (HWA) give NMED authority to regulate radioactive or non-mixed waste. Therefore, this provision exceeds the scope of NMED's regulatory authority and should be deleted.

Likewise, the waste acceptance criteria in the Second Draft improperly prohibit the disposal of remote handled (RH) transuranic (TRU) mixed waste at WIPP. The only distinction between contact handled (CH) TRU mixed waste and RH TRU mixed waste is the radioactive dose rate at the surface of the waste container. There are no distinctions regarding the types or amounts of hazardous constituents in these two categories of radioactive wastes. It is inappropriate for the Second Draft to make a distinction between the disposal of CH and RH TRU mixed wastes by allowing the former while prohibiting the latter. Neither RCRA nor the HWA grant the NMED the authority to regulate mixed wastes on the basis of differences in the container surface dose rates. Under the WIPP Land Withdrawal Act, the DOE is

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authorized to dispose of non-mixed RH TRU waste now. Prohibiting the disposal of RH TRU mixed waste will jeopardize the DOE's ability to cleanup the legacy of the Cold War and to fully utilize WIPP's capacity for disposal of RH TRU waste. The Permittees believe that the provisions in the Second Draft that prohibit the disposal of RH TRU mixed waste should be deleted. In the Fact Sheet, the NMED provided justification for this condition based on concern about the ability of the Permittees to obtain adequate waste characterization information on RH TRU waste. The appropriate mechanism for assuring the adequacy of waste characterization information is through implementation of the conditions of the permit, not through an arbitrary prohibition such as the one regarding RH TRU waste.

### **1.1.2 Specification of an Improper Point of Compliance for Groundwater Monitoring (Modules V.B and V.C)**

The groundwater detection monitoring program (DMP), described in Module V, specifies the point of compliance inside the WIPP waste management area and upgradient of existing, approved detection monitoring well locations. The Second Draft establishes the point of compliance at the outer limit of the HWDUs, which does not include the entire WIPP waste management area. The regulation at 20 NMAC 4.1.500 §264.95 requires that the point of compliance be the downgradient WIPP site boundary in order to take into account the natural barrier that is part of WIPP's waste management area. The geology within the withdrawal lands is part of the barrier system that will contain the waste and is an integral part of the WIPP disposal system. The United States Environmental Protection Agency (EPA) evaluated and confirmed the efficiency of these natural barriers in its no-migration determination, in which the EPA refused to define the unit boundary as the boundary of the HWDUs. See 55 Fed. Reg. 13076. The Final Permit should establish that the point of compliance for the DMP include the natural site barrier which constitutes the WIPP waste management area.

### **1.1.3 Requirement that the WID Provide Liability Coverage and Financial Assurance for Closure/Post Closure (Modules II.N, II.O, II.P, II.Q)**

The Second Draft requires the WID to provide liability coverage and financial assurance for closure and post-closure activities at the WIPP facility. This requirement conflicts with 20 NMAC 4.1.500 §264.140(c), which exempts the federal government from the liability and financial assurance requirements of the Hazardous Waste Management Regulations. Because the DOE is the owner of the WIPP facility, there is sufficient assurance of proper closure and monitoring of the facility. See 45 Fed. Reg. 33198-33199 (May 19, 1980). The EPA has interpreted this regulatory language to exempt both the federal government and the government's operating contractor at government-owned facilities. Therefore, the WID is exempt from these requirements. In the Fact Sheet, the NMED that state law requiring the WID to provide financial assurance. However, pursuant to the HWA, the NMED may not impose financial requirements on Permittees that are more stringent than the federal requirements. The HWA prohibits the Environmental Improvement Board (EIB) from adopting more stringent regulations for the management of hazardous waste without proper notice and public hearing. See NMSA 1978, § 74-4-4.D. Since

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the EIB has not promulgated more stringent financial requirements, the Second Draft's provisions are contrary to the HWA and should be deleted from the permit for the WIPP facility.

### **1.1.4 NMED Approval of Final Audit Reports (Module II and Attachment B6)**

The NMED has included a condition in the Second Draft that requires the Permittees to conduct an Audit and Surveillance Program at the generator sites in accordance with the WAP. The Second Draft also provides the NMED be afforded an opportunity to participate in the audits and surveillances. In addition, the Second Draft states that the NMED must approve the final audit report prior to any site sending waste to the WIPP for disposal. The audit report is subject to public review and comment. Finally, all records associated with the audit are to be maintained in the operating record.

The Second Draft's conditions with regard to the Permittees' Audit and Surveillance Program and, in particular, with regard to the approval of the final audit report, raise several questions. These have to do with the time period involved in the audit process and the timeliness of the NMED's approval, the resolution of conflicts, the role of public participation, the criteria used by the NMED to approve final audit reports, and the status of sites that have already been approved for waste characterization.

The Permittees recommend that this condition be deleted and that the NMED rely on facility inspection and enforcement to assure that the Permittees properly carry out the audit and surveillance program. Alternatively, the Permittees recommend that each of the above topics be addressed in the final permit.

## **1.2 Presentation And Organization of The Permittees' Comments**

Except for general comments about a specific Module or Permit Attachment, each of the Permittees' comments on the Second Draft is individually numbered. Numbering begins with Comment 151 which follows the comments on the First Draft. In this way no comment numbers from the First Draft are repeated. The format for the comments is as follows:

**Draft Permit Module or Attachment Text** -- sets forth the text of the Module or Permit Attachment to which the comment applies. To facilitate locating the relevant Module or Attachment text, the Module or Attachment number is given, along with page numbers (and line numbers for Attachments). These page and line numbers are taken from the official printed copy of the Draft Permit. The text in this section is set forth in ***bold and italics*** type. The NMED's redline/strikeout notation has been preserved.

**Discussion of the Draft Permit Condition** -- sets forth the Permittees' position as to the language or requirements of the Module or Attachment. This is set forth in normal type.

**Proposed Revision to Draft Permit Condition** -- sets forth the Permittees' proposal for revising the Module or Attachment to reflect the Permittees' comments in the discussion. In order to keep related comments together, all related provisions are set forth and revised when an issue initially arises in the Second Draft. In those cases where several proposed revisions are set forth, each such revision is numbered and no attempt is made to provide all of the original text so as to avoid a significant increase in the length of this comment document. All proposed revisions are set forth in *italics* type.

In instances where the Permittees are resubmitting a comment included in the comments on the first draft of the WIPP hazardous waste facility permit, the comment number is referenced and the comment is not duplicated.

This Comments document is structured as follows. **Section 1.0** is this Executive Summary. **Section 2.0** presents specific new comments on provisions in the Second Draft on a Module-by-Module, with Sections 2.1 through 2.7 dealing with Second Draft Modules I through VII respectively. Whenever a Permit Attachment supports a Module, the comments on the Attachment are included as a sub-section. For example, Section 2.1 (dealing with Module I) is divided into Section 2.1.1, Comments on Module I, and Section 2.1.2, Comments on Attachment A. **Section 3.0** contains references to previous comments that are being resubmitted. Some of these are being resubmitted with additional information. **Section 4.0** contains technical clarifications. These are items such as revised Figures, Tables, forms and clarification of text that are needed to make the final permit accurate. Justification is provided for each of these submittals. **Section 5.0** contains several editorial comments which correct typographical errors.



## 2.0 NEW COMMENTS

New comments generally apply to new text within the Second Draft.

### COMMENT 151: Module II.C.2, Page II-4

#### A. Draft Permit Module or Attachment Text

##### ***II.C.2 Audit and Surveillance Program***

***The Permittees shall not manage, store, or dispose TRU mixed waste at WIPP from a generator/storage site until the following conditions have been met as necessary for the Secretary to determine that the characterization requirements of Permit Condition II.C.1 have been implemented:***

#### B. Discussion of the Draft Permit Condition

The Second Draft includes a condition that requires the Permittees to conduct an Audit and Surveillance Program at the generator sites in accordance with the WAP. The NMED has also included a condition that NMED be afforded an opportunity to participate in the audits and surveillances. In addition, the Second Draft specifies that NMED must approve the final audit report prior to any site sending waste to the WIPP for disposal. Finally, all records associated with the audit must be maintained in the operating record.

The NMED's conditions with regard to the Permittee's Audit and Surveillance Program and in particular with regard to the approval of the final audit report raise several questions. Specifically, the time period involved in the audit process and the timeliness of the NMED's approval, the resolution of conflicts, the role of public participation, the criteria used by the NMED to approve final audit reports, and the status of sites that have already been approved for waste characterization are not addressed in the Second Draft.

The Permittees recommend that this condition be deleted and that the NMED rely on facility inspection and enforcement to assure that the Permittees properly carry out the audit and surveillance program. Alternatively, the Permittees recommend that each of the above topics be addressed in the final permit as follows:

**TIME FRAME:** The NMED should specify that it will approve the final audit report within 30 days of receiving all relevant information from the Permittees. If the NMED does not respond within 30 days, the report will be deemed approved unless the NMED specifically states that it is not approved. There are several precedents for

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establishing time frames in which the regulatory agency must act. These generally range from 30 days to one year, depending on the specific situation. In some cases, federal and state statutes incorporate a deemed approved clause that sets a timetable for agency action. If the agency fails to act, then the application is deemed to be approved. Examples of deemed approved provisions in several states follows:

Arizona: Title 49, Chapter 4, Article 9: Management of Special Waste, Section 49-851: If the director fails to approve or disapprove the plan as prescribed by this section, the plan is deemed approved.

California: Title 7: Planning and Land Use, Section 65956 [Civil procedures B compel public notice or hearings; failure to act on an application]: The failure to act shall be deemed approval of the permit application for the development project.

Colorado: Title 25: Health, Article 7: Air Quality Control. Section 25-7-114.5: Application review and public participation: Upon failure of the division to so notify the applicant within sixty calendar days of its filing, the application shall be deemed complete.

Florida: Title 9, Chapter 403: Environmental Control, Subchapter 707: Permits: If the department fails to take action or approve or deny the transfer [of a permit] within 90 days after receipt, the transfer shall be deemed approved.

Kentucky: Title XIII, Chapter 224: Environmental Protection, Subchapter 40: Waste-Generalities, Section 224.40-310 Y Requisites for issuance of permits Procedures for applications to construct solid waste landfills: If the cabinet does not request additional information or notify the applicant of the disapproval of the notice of intent or administrative application within the time periods specified in this subsection, that portion of the application review shall be deemed complete and approved.

**CONFLICTS:** The NMED should agree to participate in the audit to the extent that any and all conflicts associated with the generator site's performance will be raised during the audit and not later during the review of the audit report. Comments on the final audit report should be limited to the content and completeness of the report and associated documentation. The NMED should identify any conflicts or objections that it has with the Permittees audit at the time the audit is performed and not afterward during its review of the final audit report. Issues raised during the review and approval of the final audit report should be related to the report only and not the audit process. This restriction forces the NMED and the Permittees to resolve differences that may impact the certification process at the time when resolution is most likely. In

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addition, this should minimize the opportunity for surprises during final audit report approval.

**REVIEW CRITERIA:** The NMED should specify that it will use the audit checklists, the WAP, and the documentation of the resolution of corrective actions as its sole criteria for approval of the final audit report. Actual characterization program results should not be considered in this approval since the NMED would be approving a process and not characterization results.

**EXISTING CERTIFICATIONS:** The NMED should specify that NMED approval will not be required for sites that have been certified by the Permittees and the EPA pursuant to the compliance prior to the issuance of the final permit. However, future audits can be subject to approval.

**ROLE OF PUBLIC COMMENT:** The NMED has stated that it intends to "...make the final audit report available to the public for review and comment." This action is duplicative and unnecessary since the public will have an opportunity to review and comment on the generator site certification process through the EPA's rulemaking. The NMED and the EPA can cooperate in addressing comments during the EPA's rulemaking process. Furthermore, the public has and will review the draft permit and have an opportunity to participate in the public hearing. So long as the Permittees operate within the conditions of the final permit there is no role for additional public notice or comment after final permit issuance.

**ADDITIONAL COMMENT:** With regard to the requirement in Condition II.C.2.b to provide 45 day notification of a generator/storage site audit, such notice is usually not available. The DOE generally can anticipate the sequence of audits, and establish target dates, however, the actual scheduling of the audit is based on ongoing generator/ storage site QA program activities and readiness. Because this is a dynamic process, a maximum of 30 day notice is available. This condition should be changed accordingly.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Module II.C.2, Page II-4**

##### *II.C.2. Audit and Surveillance Program*

*The Permittees shall not manage, store, or dispose TRU mixed waste at WIPP from a generator/storage site until the following conditions have been met as necessary for the Secretary to determine that the characterization requirements of Permit Condition have been implemented:*

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- II.C.2.a. Requirement to audit - the Permittees shall demonstrate to the Secretary that the generator/storage sites have implemented and comply with applicable requirements of the WAP by conducting an audit of the generator/storage sites as specified in Permit Attachment B, Section B-4b(1)(iii), and Permit Attachment B6 (Waste Isolation Pilot Plant Permittees' Audit and Surveillance Program), and as required by 20 NMAC 4.1.500 (incorporating 40 CFR §264.13).
- II.C.2.b. Observation of audit - the Secretary may observe such audits as necessary to validate the implementation of and compliance with applicable WAP requirements at each generator/storage site. The Permittees shall provide the Secretary with a current audit schedule and notify the Secretary no later than **thirty (30)**~~forty-five (45)~~ calendar days prior to each audit.
- II.C.2.c. Final audit report - the Permittees shall provide the Secretary a final audit report as specified in Permit Attachment B6. The final audit report shall include all information specified in Permit Attachment B6, Section B6-4, and:

*A detailed description of all corrective actions and the resolution of any corrective action applicable to WAP requirements, including re-audits if required;*

*All **reasonable** documentation necessary for the Secretary to determine if the corrective action was resolved.*

*The Secretary will have 30 days to respond to the report. If the Secretary does not respond in writing to the Permittees within 30 days of the initial report receipt or subsequent requested documentation receipt, the report will be deemed approved, and will be deemed a demonstration to the Secretary that the generator/storage sites have implemented and comply with applicable requirements of the WAP.*

~~*NMED will make the final audit report available for public review and comment within 15 days of receipt and for no greater than 30 days after all requested documents have been reported to the Secretary by the Permittees*~~

**2. Attachment B-4b(1)(iii), Page B-30, Lines 31 to 41 and Page B-31, Lines 1 to 14**

*An important part of the Permittees' verification process is the Permittees' Audit and*

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*Surveillance Program. The focus of this audit program is compliance with this WAP and the Permit. This audit program addresses all waste sampling and analysis activities, from waste stream classification assignment through final loading of the TRUPACT-II, and ensures compliance with SOPs and the WAP. Audits will assure that containers and their associated documentation are adequately tracked throughout the waste handling process. Operator qualifications will be verified, and QA/QC procedures will be surveyed. A final report that includes generator/storage site audit results and applicable WAP-related corrective action report (CAR) resolution will be provided to NMED for approval **as specified in permit condition II.C.2**, and will be kept in the WIPP facility operating record until closure of the WIPP facility.*

### **3. Attachment B6-4, Page B6-6, Lines 12-32**

*The audit report will be prepared, approved, and issued to the site within thirty (30) days of the completion of the audit by the Permittees. NMED shall receive a copy of the audit report upon issuance for information purposes. A formal final audit report will be provided to NMED which will include WAP-related CAR resolution results and audit results that will include, as a minimum, sections describing the scope, purpose, summary of deficiencies, and observations in narrative format, completed audit checklists, audited procedures, and other applicable documents which provide evidence of WAP implementation. The report will also include an identification of the organization audited, the dates of the audit, and the requested response date: ~~NMED will make the final audit report available for public review and comment.~~ The audited site will respond to any deficiencies and observations within thirty (30) days after receipt of any CARs and indicate the corrective action taken or to be taken. If the corrective action has not been completed, the response must indicate the expected date the action will be completed. CARs applicable to WAP requirements shall be resolved prior to waste shipment **unless deemed approved as specified in permit condition II.C.2**. Subsequent audits or specific verifications, announced or unannounced, will determine if the corrective action has been satisfactorily implemented. Deficiencies, observations, and CARs will be tracked to completion according to established procedure(s). ~~In addition, all audit items will be trended to determine if similar situations exist system wide. Trend reports will be issued as necessary to provide a "lessons learned" announcement to other sites who might benefit from program improvements implemented as a result of resolutions to the specific situations discovered at the performance of these audits.~~*

**COMMENT 152: Module II.C.3.f, Page II-5**

**A. Draft Permit Module or Attachment Text**

***PCB concentrations - wastes with polychlorinated biphenyl (PCB) concentrations equal to or greater than 50 parts per million are not acceptable at WIPP.***

**B. Discussion of the Draft Permit Condition**

The new PCB disposal regulations, Disposal of Polychlorinated Biphenyls (PCBs), 63 Fed. Reg. 35384, effective August 28, 1998, allows PCB-contaminated radioactive waste to be disposed of without a TSCA permit provided the waste meets the requirements for disposal in a non-hazardous waste landfill or a hazardous waste landfill. This recent regulatory change would allow disposal at WIPP of some PCB-contaminated wastes where the PCB component exceeds 50 ppm. The new regulatory scheme is complex. Whether a PCB-contaminated waste stream meets the requirements for disposal in a non-hazardous waste landfill or a hazardous waste landfill depends upon the origin of the PCB component, the type of PCB waste involved, and the concentration of the PCB component. Therefore, this provision should be deleted.

**C. Proposed Revisions to the Draft Permit**

**1. Module II.C.3.f, Page II-5**

~~*PCB concentrations - wastes with polychlorinated biphenyl (PCB) concentrations equal to or greater than 50 parts per million are not acceptable at WIPP.*~~

**2. Attachment B-1c, Page B-7, Line 1 to 2**

~~*wastes with polychlorinated biphenyl (PCB) concentrations equal to or greater than 50 parts per million*~~

**3. Attachment B, Table B-8, Page B-53, Line 21**

Delete reference to footnote f. [No markup provided]

**4. Attachment B, Table B-8, Page B-54, Line 11**

Delete footnote f. [No markup provided]

**5. Attachment B6, Table B6-1, Page B6-14, 6th bullet**

Delete this bullet.[No markup provided]

**COMMENT 153: Module III.A.2.f, Page III-3 and Page III-4**

**A. Draft Permit Module or Attachment Text**

***Storage time limit - the Permittees shall not store sealed TRUPACT-II shipping containers in the Parking Area Unit for more than fifty-nine (59) days after the date the Inner Containment Vessel (ICV) of the TRUPACT-II shipping container was sealed at the generator site. Prior to storing a sealed TRUPACT-II shipping container, the Permittees shall verify that the ICV Closure Date for each TRUPACT-II shipping container is recorded on the EPA Hazardous Waste Manifest and in the WIPP Waste Information System (WWIS) database described in Permit Attachment B.***

**B. Discussion of the Draft Permit Condition**

The ICV closure date does not appear on the Hazardous Waste Manifest. Instead, the information is supplied to the WIPP through the WWIS so that it is available before the shipment arrives. Since the Permittees have the ICV Closure date in a timely manner, placing it on the manifest is of no value. Therefore, the phrase, "recorded on the EPA Hazardous Waste Manifest and," should be deleted.

**C. Proposed Revisions to the Draft Permit**

**1. Module III.A.2.f, Page III-3 and Page III-4**

*III.A.2.f. Storage time limit - the Permittees shall not store sealed TRUPACT-II shipping containers in the Parking Area Unit for more than fifty-nine (59) days after the date the Inner Containment Vessel (ICV) of the TRUPACT-II shipping container was sealed at the generator site. Prior to storing a sealed TRUPACT-II shipping container, the Permittees shall verify that the ICV Closure Date for each TRUPACT-II shipping container is recorded on the EPA Hazardous Waste Manifest and in the WIPP Waste Information System (**WWIS**) database described in Permit Attachment B.*

**COMMENT 154: Module III.G.2, Page III-6**

**A. Draft Permit Module or Attachment Text**

*The Permittees shall not be required to inspect the contents of sealed TRUPACT-II shipping containers stored in compliance with Permit Condition III.A.2 and Permit Attachment M1, Section M1-1e(2). **The Permittees shall clearly placard each TRUPACT-II shipping container containing TRU mixed waste.***

**B. Discussion of the Draft Permit Condition**

The requirement regarding the placarding of TRUPACT-IIs is confusing. The terms placarding, labeling, and posting, have specific significance at the WIPP. Placarding is regulated by the federal transportation rules, is the responsibility the generator/shipper, and applies to the trailer that carries the TRUPACT-IIs. Labeling is required by several rules, including the hazardous waste regulations, and is also a generator requirement. Posting is required by the radiation protection rules and is the responsibility of the generator/shipper with regard to the loaded containers and the responsibility of the Permittees with regard to TRUPACT-IIs residing in storage areas. The NMED should specify the intent of this condition and allow the Permittees to develop the best method of compliance.

**C. Proposed Revisions to the Draft Permit**

**1. Module III.G.2, Page III-6**

*The Permittees shall not be required to inspect the contents of sealed TRUPACT-II shipping containers stored in compliance with Permit Condition and Permit Attachment M1, Section M1-1e(2). **For placard each TRUPACT-II shipping container containing TRU mixed waste, the Permittees shall clearly indicate if the container is empty or contains waste.***



**COMMENT 155: Module IV.B.2.b, Page IV-2**

**A. Draft Permit Module or Attachment Text**

***Specific prohibition - the Permittees shall not dispose non-mixed TRU waste in any unit specified in this Module unless such waste is characterized in a manner identical to the requirements of the WAP specified in Permit Condition II.C.1.***

**B. Discussion of the Draft Permit Condition**

This provision exceeds the scope of NMED's regulatory authority and should be deleted. If the provision is not deleted, it should be revised to delete the word "identical" and replace with "consistent with" or "in accordance with." Neither RCRA or the HWA give New Mexico jurisdiction over non-mixed waste. Although the Permittees intend to characterize non-mixed waste according to the same procedures a mixed waste, the permit cannot prohibit the Permittees from placing non-mixed waste in the rooms or panels of the repository that will contain mixed waste regardless of how the non-mixed waste was characterized. The fact that the Permittees intend to manage mixed and non-mixed wastes in the same manner at WIPP cannot and does not confer RCRA or HWA jurisdiction over non-mixed waste to New Mexico, particularly in the absence of a final and effective RCRA or HWA permit. EPA regulates the disposal of non-mixed transuranic wastes at WIPP pursuant to 40 C.F.R. Parts 191 and 194. The EPA's primary authority for promulgating these regulations in the Atomic Energy Act. See Preambles to 40 C.F.R. Parts 191 and 194; see also 50 Fed. Reg. At 38,066/1,38,067/2 & 38,084/2 (Sept. 19, 1985); 61 Fed. Reg. at 5,236/1 (Feb. 9, 1996). Now that EPA has certified that WIPP is in compliance with the requirements in these regulations, the Permittees may begin disposal of non-mixed transuranic wastes from LANL and any other site that EPA subsequently approves pursuant to 40 C.F.R. § 194.8. See 40 C.F.R. § 194.8 (1998). The fact that the Permittees have applied for a RCRA permit so that they can dispose of mixed as well as non-mixed transuranic wastes does not alter or affect their ability to dispose of non-mixed transuranic waste now that EPA has certified WIPP pursuant to the Agency's authority under the Atomic Energy Act (AEA).

RCRA and the HWA contain an explicit provision exempting activities subject to the AEA from regulations under RCRA or the HWA to the extent that the application of RCRA or the HWA would be inconsistent with regulation under the Atomic Energy Act. Section 1006(a) of RCRA states:

Nothing in this Chapter shall be construed to apply to (or to authorize any State, interstate, or local authority to regulate) any activity or substance which is subject

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to...the Atomic Energy Act of 1954 except to the extent that such application (or regulation) is not inconsistent with the requirements of [the Atomic Energy Act].

42 U.S.C. § 6905(a); also see NMSA 1978, § 74-4-3.1. Non-mixed transuranic waste is a substance subject to the AEA and the disposal of this type of waste is an activity regulated by that Act. Conversely, neither non-mixed transuranic waste nor its disposal are subject to RCRA or the HWA. This permit provision (IV.B.2.b) would prevent the Permittees from disposing of non-mixed transuranic waste at WIPP until the facility receives a RCRA or HWA permit even though the EPA has approved all aspects of this activity pursuant to the Agency's authority under the AEA. It is difficult to imagine a construction of RCRA or the HWA that would be more inconsistent with the requirements of the Atomic Energy Act—prohibition of activity that has been fully approved under the AEA and that is not subject to RCRA or HWA regulation.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Module IV.B.2.b, Page IV-2**

*~~IV.B.2.b. — Specific prohibition - the Permittees shall not dispose non-mixed TRU waste in any unit specified in this Module unless such waste is characterized in a manner identical to the requirements of the WAP specified in Permit Condition II.C.1.~~*

#### **2. Attachment B, Page B-5, Line 15 to 25**

*Once the required waste characterization is complete, the generator/storage site will complete a Waste Stream Profile Form to document the results of **their**its characterization activities (see Section B-1d). ~~The data summary reports, waste stream characterization summary report(s), and Waste Stream Profile Forms~~ **and waste characterization summary packages (i.e., testing, sampling, and analytical data summary reports and acceptable knowledge summary report)** resulting from waste characterization activities shall be transmitted to the Permittees, reviewed for completeness, and screened for acceptance prior to loading any TRU mixed waste into the Transuranic Package Transporter (**TRUPACT-II**) at the generator facility, as described in Section B-4. Only TRU mixed waste ~~and TRU waste~~ that has been characterized in accordance with this WAP and that meets the Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (**TSDF-WAC**) specified in this Permit; will be accepted at the WIPP facility for disposal in a permitted Underground Hazardous Waste Disposal Unit (**HWDU**).*

## COMMENT 156: Module IV.D.1, Page IV-3

A. Draft Permit Module or Attachment Text

The average **measured** concentration of VOCs **in the headspace gas of all containers** in any single room within an Underground HWDU shall not exceed the limits specified in Table IV.D.1 below:

<i>Table IV.D.1 - VOC Room-Based Limits</i>	
<i>Compound</i>	<i>VOC Room-Based Concentration Limit (PPMV)</i>
<i>Carbon Tetrachloride</i>	<del>1680</del> <b>11475</b>
<i>Chlorobenzene</i>	<del>1470</del> <b>13000</b>
<i>Chloroform</i>	<del>1300</del> <b>9130</b>
<i>1,1-Dichloroethene</i>	<del>3150</del> <b>5050</b>
<i>1,2-Dichloroethane</i>	<del>1325</del> <b>3350</b>
<i>Methylene Chloride</i>	<del>6060</del> <b>100000</b>
<i>1,1,2,2-Tetrachloroethane</i>	<del>1420</del> <b>2720</b>
<i>Toluene</i>	<del>3600</del> <b>11000</b>
<i>1,1,1-Trichloroethane</i>	<del>5630</del> <b>47000</b>

*There are no maximum concentration limits for other VOCs.*

B. Discussion of the Draft Permit Condition

Although the requirement for VOC limits has been clarified with this Second Draft, the method used to calculate the concentrations is inappropriate. According to the NMED administrative record for this permit, some limits were derived based on acute exposures to workers based on potential accident scenarios. The specification of release limits and exposure criteria under RCRA is not usually based on accident scenarios. Instead, it is common to develop risk scenarios based on normal operations. In order to use accident scenarios, one must consider, among other factors, the probability of the accident. Clearly, the NMED did not consider the probability of the accidental exposure in its calculations. Without this basis, the limits established are arbitrary.

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In addition, the use of occupational exposures other than those established by the Occupational Safety and Health Administration (OSHA) is arbitrary and unfairly burdens the Permittees with more stringent environmental performance standards than other facilities in New Mexico. The NMED should recalculate the allowable VOC emissions using only the EPA risk levels for environmental protection of  $10^{-5}$  or  $10^{-6}$  for long-term (chronic) exposure. These limits should be applied to the maximally exposed member of the public (i.e., the permanent resident at the facility boundaries). In addition the word “measured” should be deleted from the text since concentrations in every payload need not be measured to establish an average value.

**C. Proposed Revisions to the Draft Permit**

**1. Module IV.D.1, Page IV-3**

*IV.D.1. Room-Based Limits*

*The average ~~measured~~ concentration of VOCs in the headspace gas of all containers in any single room within an Underground HWDU shall not exceed the limits specified in Table IV.D.1 below:*

<b>Table IV.D.1 - VOC Room-Based Limits</b>	
<b>Compound</b>	<b>VOC Room-Based Concentration Limit (PPMV)</b>
<i>Carbon Tetrachloride</i>	11475
<i>Chlorobenzene</i>	13000
<i>Chloroform</i>	9130
<i>1,1-Dichloroethene</i>	<del>28750</del> 5050
<i>1,2-Dichloroethane</i>	<del>9100</del> 3350
<i>Methylene Chloride</i>	100000
<i>1,1,2,2-Tetrachloroethane</i>	<del>7924</del> 2720
<i>Toluene</i>	11000
<i>1,1,1-Trichloroethane</i>	47000

*There are no maximum concentration limits for other VOCs.*

**2. Module IV.F.2.c, Page IV-7**

*IV.F.2.c. Notification requirements - the Permittees shall notify the Secretary in*

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*writing, within five (5) working days of obtaining validated analytical results, whenever the concentration of any VOC specified in Table exceeds the concentration of concern specified in Table IV.F.2.c below.*

*The Permittees shall notify the Secretary in writing, within five (5) working days of obtaining validated analytical results, whenever the running annual average concentration (calculated after each sampling event) for any VOC specified in Table IV.F.2.c exceeds the concentration of concern specified in Table IV.F.2.c below.*

<b>Table IV.F.2.c - VOC Concentrations of Concern</b>		
<b>Compound</b>	<b>Drift E-300 Concentration</b>	
	<i>ug/m3</i>	<i>ppbv</i>
Carbon Tetrachloride	1260	200
Chlorobenzene	1015	220
Chloroform	820	170
1,1-Dichloroethene	<del>1700</del> 375	<del>430</del> 95
1,2-Dichloroethane	<del>330</del> 250	<del>81</del> 60
Methylene Chloride	6700	1930
1,1,2,2-Tetrachloroethane	<del>975</del> 325	<del>150</del> 50
Toluene	715	190
1,1,1-Trichloroethane	4460	820

**COMMENT 157: Module VII.B.4.d, Page VII-6**

**A. Draft Permit Module or Attachment Text**

*Except as exempted by Section 9(a)(1) in the WIPP LWA, the Permittees shall perform a waste analysis at least annually or when a process changes, to **demonstrate that any hazardous waste generated at the facility** ~~determine whether the waste meets applicable treatment standards~~. Results shall be maintained in the operating record.*

**B. Discussion of the Draft Permit Condition**

The requirement to “demonstrate that any hazardous waste generated at the facility meets the treatment standards” is ambiguous. The regulations state that a generator must test the waste and report the results to the treatment, storage or disposal facility where the waste is shipped. This report can either be a statement that the waste does not meet the applicable treatment standards, as set forth in 20 NMAC 4.1.500 §, (268.7(a)(1)) or that it does, as set forth in 20 NMAC 4.1.500 § 268.7(a)(2). The condition suggests that the Permittees must demonstrate at all times that the waste meets the treatment standards. This is not possible, nor is it required for hazardous waste generated at the WIPP.

**C. Proposed Revisions to the Draft Permit**

**1. Module VII.B.4.d, Page VII-6**

- d. *Except as exempted by Section 9(a)(1) in the WIPP LWA, the Permittees shall ~~perform a waste analysis at least annually or when a process changes, to demonstrate that~~ **evaluate** any hazardous waste generated at the facility ~~meets~~ **relative to the** applicable treatment standards **and provide the proper notifications to the TSD, where the waste is shipped**. Results shall be maintained in the operating record.*

**COMMENT 158: Attachment B, Introduction, Page B-3, Lines 23-29**

**A. Draft Permit Module or Attachment Text**

**S5000 - Debris Wastes**

*This Summary Category Group includes heterogenous waste that is at least 50 percent by volume materials that meet the criteria specified in 20 NMAC 4.1.800 (incorporating 40 CFR §268.2 (g)) ~~for classification as debris as follows:~~ **Debris is a material for which a specific treatment is not provided by 20 NMAC 4.1.800 (incorporating 40 CFR §268 Subpart D), including process residuals such as smelter slag from the treatment of wastewater, sludges or emission residues.***

**B. Discussion of the Draft Permit Condition**

The following sentence on Page B-3, lines 27-29 should be deleted: "Debris is a material for which a specific treatment is not provided by 20 NMAC 4.1.800 , including process residuals such as smelter slag from the treatment of waste water, sludges or emission residues." The definition of debris in the Waste Analysis Plan (WAP) is used to determine the waste characterization requirements, not compliance with the RCRA land disposal restrictions. Therefore the additional language is inappropriate. Second, the statement in the Second Draft is incomplete. The actual definition for purposes of meeting the LDR treatment standards includes leaded bricks and lead acid batteries, which are defined as debris for purposes of the WIPP waste analysis requirements.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B, Introduction, Page B-3, Lines 23-29**

**S5000 - Debris Wastes**

*This Summary Category Group includes heterogenous waste that is at least 50 percent by volume materials that meet the criteria specified in 20 NMAC 4.1.800 (incorporating 40 CFR §268.2 (g)). ~~Debris is a material for which a specific treatment is not provided by 20 NMAC 4.1.800 (incorporating 40 CFR §268 Subpart D); including process residuals such as smelter slag from the treatment of wastewater, sludges or emission residues.~~*

**COMMENT 159: Attachment B, Introduction, Page B-4, Lines 16 to 36**

**A. Draft Permit Module or Attachment Text**

Halogenated Volatile Organic Compounds

Some of the TRU mixed waste to be emplaced in the WIPP facility contains spent halogenated volatile organic compound (**VOC**) solvents identified in 20 NMAC 4.1.200 (incorporating 40 CFR, §261.31) (EPA hazardous waste numbers F001 through F005). Tetrachloroethylene; trichloroethylene; methylene chloride; carbon tetrachloride; 1,1,1-trichloroethane; and 1,1,2-trichloro-1,2,2-trifluoroethane (EPA hazardous waste codes F001 and F002) are the most prevalent halogenated organic compounds identified in TRU mixed waste that may be managed at the WIPP facility during the Disposal Phase. These compounds are commonly used to clean metal surfaces prior to plating, polishing, or fabrication; to dissolve other compounds; or as coolants. Because they are highly volatile, only small amounts typically remain on equipment after cleaning or, in the case of treated wastewaters, in the sludges after clarification and flocculation. **Radiolysis may also generate halogenated volatile organic compounds.**

**Nonhalogenated Volatile Organic Compounds**

***Xylene, methanol, and n-butanol are the most prevalent nonhalogenated VOCs in TRU mixed waste that may be managed at the WIPP facility during the Disposal Phase. Like the halogenated VOCs, they are used as degreasers and solvents and are similarly volatile. The same analytical methods that are used for halogenated VOCs are used to detect the presence of nonhalogenated VOCs. Radiolysis may also generate non-halogenated volatile organic compounds.***

**B. Discussion of the Draft Permit Condition**

The last sentence in this paragraph is unnecessary and should be deleted. Assignment of RCRA hazardous waste codes is the generator's responsibility and generators should use all available acceptable knowledge, (which may include information regarding radiolytically derived constituents), to support their hazardous waste determinations. It is not necessary for the Permit to specifically single out radiolysis as a potential source of VOCs. Unless generators can conclusively attribute, through acceptable knowledge, the origin of the hazardous constituent to something other than the waste generating process, the constituent must be added



to the target analyte list if the criteria in Attachment B3 are met and applicable additional hazardous waste codes must be assigned, as appropriate.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B, Introduction, Page B-4, Lines 16 to 36**

##### Halogenated Volatile Organic Compounds

Some of the TRU mixed waste to be emplaced in the WIPP facility contains spent halogenated volatile organic compound (**VOC**) solvents identified in 20 NMAC 4.1.200 (incorporating 40 CFR, §261.31) (EPA hazardous waste numbers F001 through F005). Tetrachloroethylene; trichloroethylene; methylene chloride; carbon tetrachloride; 1,1,1-trichloroethane; and 1,1,2-trichloro-1,2,2-trifluoroethane (EPA hazardous waste codes F001 and F002) are the most prevalent halogenated organic compounds identified in TRU mixed waste that may be managed at the WIPP facility during the Disposal Phase. These compounds are commonly used to clean metal surfaces prior to plating, polishing, or fabrication; to dissolve other compounds; or as coolants. Because they are highly volatile, only small amounts typically remain on equipment after cleaning or, in the case of treated wastewaters, in the sludges after clarification and flocculation. ~~Radiolysis may also generate halogenated volatile organic compounds.~~

##### Nonhalogenated Volatile Organic Compounds

*Xylene, methanol, and n-butanol are the most prevalent nonhalogenated VOCs in TRU mixed waste that may be managed at the WIPP facility during the Disposal Phase. Like the halogenated VOCs, they are used as degreasers and solvents and are similarly volatile. The same analytical methods that are used for halogenated VOCs are used to detect the presence of nonhalogenated VOCs. ~~Radiolysis may also generate non-halogenated volatile organic compounds.~~*

#### **2. Attachment B-3a(1), Page B-10, Lines 18-29**

*Headspace-gas samples are used to determine the types and concentrations of VOCs in the void volume of waste containers. Measured headspace VOC concentrations in waste containers received at the WIPP facility will be compared routinely and in accordance with requirements of Permit Attachment N to ensure that, on an annual basis, there are no associated adverse worker or public-health impacts. In addition, VOC constituents will be compared to those assigned by acceptable knowledge, and the Permittees will assign hazardous waste codes, as warranted. ~~This comparison will include an analysis of radiolytically derived VOCs. The Permittees will also consider radiolysis when assessing the presence of listed~~*

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~~waste, and will consider whether radiolysis would generate wastes which exhibit the toxicity characteristic. Refer to Permit Attachment B4 for additional clarification regarding hazardous waste code assignment and headspace gas results.~~

### **3. Attachment B-3d, Page B-13, Lines 34 to 40 and B-14, Lines 1 to 11**

~~All waste containers (retrievably stored and newly generated) are sampled and analyzed for VOCs in the headspace gas. A statistically selected portion of containers from each waste stream (unless it is exempt) will be sampled and analyzed for VOCs in headspace gases.~~ A statistically selected portion of each homogeneous solids and soil/gravel waste stream is sampled and analyzed for RCRA-regulated total VOCs, SVOCs, and metals (see Permit Attachment B2). Sampling and analysis methods used for waste characterization are discussed in Section B-3a. In the process of performing organic headspace and solid sample analyses, nontarget compounds may be identified. These compounds will be reported as TICs. TICs found in 25% of the samples and listed in 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII, will be compared with acceptable knowledge data to determine if the TIC is in a listed hazardous waste in the waste stream. If the ~~source or origin of the~~ TIC cannot be identified (e.g., as a component of waste packaging materials), the Permittees will add these TICs to the list of hazardous constituents for the waste stream (and assign additional EPA listed hazardous waste codes, if appropriate). A permit modification will be submitted to the NMED for ~~their~~ approval to add these constituents (and waste codes), if necessary. For toxicity characteristic compounds and non-toxic F003 constituents, the Permittees may consider waste concentration when determining whether to change a hazardous waste code. Refer to Permit Attachment B3 for additional information on TIC identification.

### **4. Attachment B3-1, Page B3-6, Lines 1 to 16**

~~TICs that meet the SW-846 identification criteria, are detected in 25 percent of all samples from a given waste stream, and that appear in the 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII list, will be compared to acceptable knowledge data to determine if the TIC is a listed waste in the waste stream. TICs may be excluded from the target analyte list for a waste stream if the TIC is a constituent in an F-listed waste whose presence is attributable to waste packaging materials or radiolytic degradation from acceptable knowledge documentation. If a listed waste constituent TIC cannot be attributed to waste packaging materials; radiolysis; or other origins, the constituent will be added to the target analyte list and new hazardous waste codes will be assigned, if appropriate. TICs subject to inclusion on the target analyte list that are toxicity characteristic parameters shall be added to the target analyte list regardless of origin because the hazardous waste designation for these codes is not based on source. However, for toxicity~~

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*characteristic and non-toxic F003 constituents, the site may take concentration into account when assessing whether to add a hazardous waste code. If a target analyte list for a waste stream is expanded due to the presence of TICs, all samples collected from that waste stream will be analyzed for constituents on the expanded list.*

**COMMENT 160: Attachment B-1a, Page B-5 Lines 28 to 33 and Page B-6, Lines 1 to 4**

**A. Draft Permit Module or Attachment Text**

*TRU mixed waste destined for disposal at WIPP will be characterized on a waste stream basis. **Generator/storage** sites will delineate waste streams using acceptable knowledge. Required acceptable knowledge is specified in Section B-3b and Permit Attachment B4. If acceptable knowledge for retrievably stored waste does not comply with these requirements (i.e., heterogenous Debris Waste in Summary Category S5000), the Permittees will reexamine (and characterize) the waste as newly generated waste.*

**B. Discussion of the Draft Permit Condition**

It is unnecessary to use the concept of “waste stream lot” when characterizing waste at and this requirement should be deleted. The requirement to characterize waste on a lot basis was identified in the Rev. 0, QAPP and in Permittees’ RCRA Part B Permit Application. The Second Draft requires characterization only by lots where "all of the waste within a waste stream may not be available for sampling and analysis at one time" (Section B-1a).

The requirement to characterize waste streams in discrete lots implies the possible need to submit a new Waste Stream Profile Form (WSPF) for each lot, which would result in:

- considerably more work for both the sites and CAO in the preparation, review, and approval of the WSPF;
- additional sampling, analysis, and examination for at least some waste streams, due to the much smaller waste stream (lot) size; and
- problems with accumulating lots over time requiring the separate characterization of small groups of waste containers. This will substantially interfere with site shipping/disposal and characterization schedules.

Generator/storage sites have the responsibility to assign all of their waste containers to waste streams using acceptable knowledge. One factor in this assignment is the current storage configuration of the waste. Sites also have considerable flexibility in how containers are chosen for sampling and analysis. The storage configuration and difficulty in gaining access to specific containers can be taken into account when sites design their sampling methodology for the waste stream. Characterizing by lot will increase sampling, analysis, and testing and will result in increased worker

exposure, risk of contamination, and secondary waste generation.

The benefits from deleting the lot requirement will include:

- more orderly characterization, handling, and disposal of continuously generated waste streams;
- reduced waste characterization costs resulting from less sampling, analysis, and examination; and
- reduced waste container handling, reduced worker exposure, reduced documentation preparation, review, and approval.

### **C. Proposed Revision to Draft Permit Condition**

#### **1. Attachment B-1a, Page B-5 Lines 28 to 33 and Page B-6, Lines 1 to 4**

*TRU mixed waste destined for disposal at WIPP will be characterized on a waste stream basis. Generator/storage sites will delineate waste streams using acceptable knowledge. Required acceptable knowledge is as specified in Section B-3b and Permit Attachment B4. If acceptable knowledge for retrievably stored waste does not comply with these requirements (i.e., heterogenous Debris Waste in Summary Category S5000), the Permittees will reexamine (and characterize) the waste as newly generated waste.*

*All of the waste within a waste stream may not be available for sampling and analysis at one time. In these instances, generator/storage sites may divide waste streams into waste stream lots based on staging, transportation, or handling issues. Characterization activities shall then be undertaken on a waste stream lot basis.*

**COMMENT 161: Attachment B-1d, Page B-9, Lines 3 to 10**

**A. Draft Permit Module or Attachment Text**

*The WIPP Waste Operations Manager is **Permittees** are responsible for the review of Waste Stream Profile Forms (see Section B-4b and Figure B-1) and data records to verify compliance with the restrictions on TRU mixed wastes for WIPP disposal. The Permittees will submit completed Waste Stream Profile Forms to NMED prior to waste stream shipment under the **TSDF-WAC**. The WIPP Waste Operations Manager will also be responsible for the review of shipping records (see Section B-4b) to verify that each **waste** container has been prepared and characterized in accordance with **applicable provisions of this WAP**. Waste characterization data shall confirm the absence of prohibited items specified in Section B-1c.*

**B. Discussion of the Draft Permit Condition**

The requirement to submit the waste stream profile forms (WSPFs) is unnecessary and should be deleted. Pursuant to the Second Draft, the NMED must approve the final audit report. This approval, essentially constitutes approval of the process used by the generator/shipper site to prepare the WSPF. In addition, all WSPFs and their supporting information will be available in the operating record for inspection by the NMED.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-1d, Page B-9, Lines 3 to 10**

*The Permittees are responsible for the review of Waste Stream Profile Forms (see Section B-4b and Figure B-1) and data records to verify compliance with the restrictions on TRU mixed wastes for WIPP disposal. ~~The Permittees will submit completed Waste Stream Profile Forms to NMED prior to waste stream shipment under the TSDF-WAC.~~ The **Permittees** WIPP Waste Operations Manager will also be responsible for the review of shipping records (see Section B-4b) to verify that each waste container has been prepared and characterized in accordance with applicable provisions of this WAP. Waste characterization data shall confirm the absence of prohibited items specified in Section B-1c.*

**COMMENT 162: Attachment B-3d(1)(a), Page B-15, Lines 15 to 29**

**A. Draft Permit Module or Attachment Text**

*Newly generated **mixed** waste streams of homogeneous solids will be randomly sampled a minimum of once per year for total PCBs, VOCs, SVOCs and metals. An initial-five **ten**-sample set, however, will be collected to develop the baseline control chart. Sampling frequency of once per year is only allowed if a process has operated within procedurally established bounds without any process changes or fluctuations which would result in either a new waste stream or the identification of a new hazardous waste constituent in that waste stream. Otherwise, the waste shall be considered as process batches and each batch will undergo sampling and analysis. Process changes and process fluctuations will be determined using statistical process control charting techniques; these techniques require the-five **ten**-sample baseline and historical data for determining limits for indicator species and subsequent periodic sampling to assess process behavior relative to historical limits. If the limits are exceeded, the waste stream shall be recharacterized, and the characterization shall be performed according to procedures required for retrievably stored waste (i.e., waste sampling frequency will be increased). The process behind this control charting technique is described in Permit Attachment B2.*

**B. Discussion of the Draft Permit Condition**

The Second Draft Permit requires that generator/storage sites use a system of periodic sampling and “control charts” to verify that target analytes within the waste stream remain within a specified analyte concentration for all homogeneous waste characterized before and during packaging (newly generated homogeneous waste).

The requirements for a minimum of ten samples and the use of control charts should be deleted. Generator/storage sites need more flexibility in how they verify that the waste stream properties remain within the definition documented on the waste stream profile form (WSPF) for the waste stream.

In addition, this requirement is applicable to homogeneous waste streams where the process that generates the waste is still in use. An example is a waste water treatment system that has sufficient TRU contamination to still produce some TRU sludge. Because these waste streams are still in use, the generator/storage sites generally have excellent acceptable knowledge on the type and quantity of contaminants that are present. Which should be more than sufficient to prepare the WSPF.

After the WSPF is approved, generator/storage sites have a number of process control and verification techniques available to verify that the waste stream remains within established parameters. There are a several real-time measurements (density, radioactivity, electrical conductance, etc.) that are routinely used and can be correlated to many contaminants of interest. The generator/storage sites should determine the specific methods and techniques used to verify the consistency of the waste as it is generated. All such verification activities are subject to audit by the Permittees with NMED oversight.

Sampling and analysis of radioactive materials is a costly and potentially hazardous procedure that should be required only when other methods are insufficient. In the case of homogeneous waste that is characterized before and during packaging, other options should be reviewed by the sites before sampling is used. These other methods will reduce costs, improve worker safety, and, in many cases, provide more timely warning that a process change has occurred.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B-3d(1)(a), Page B-15, Lines 15 to 29**

~~Newly generated mixed waste streams of homogeneous solids will be randomly sampled a minimum of once per year for total PCBs, VOCs, SVOCs and metals. An initial ten-sample set, however, will be collected to develop the baseline control chart. Sampling frequency of once per year is only allowed if a process has operated within procedurally established bounds without any process changes or fluctuations which would result in either a new waste stream or the identification of a new hazardous waste constituent in that waste stream. Otherwise, the waste shall be considered as process batches and each batch will undergo sampling and analysis. Process changes and process fluctuations will be determined using statistical process control charting techniques; these techniques require the ten-sample baseline and historical data for determining limits for indicator species and subsequent periodic sampling to assess process behavior relative to historical limits. If the limits are exceeded, the waste stream shall be recharacterized, and the characterization shall be performed according to procedures required for retrievably stored waste (i.e., waste sampling frequency will be increased). The process behind this control charting technique is described in Permit Attachment B2. Homogeneous solids that are characterized before and during packaging shall be sampled at least once per year, or once per process batch, whichever is higher. Control charts may be used as described in Permit Attachment B2.~~

#### **2. Attachment B2-4, Page B2-6, Lines 27 to 30 and Page B2-7, Lines 1 to 5**

~~Significant process changes and process fluctuations associated with newly~~



**DOEWID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

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~~generated waste will be determined using statistical process control (SPC) charting techniques; these techniques require historical data for determining limits for indicator species, and subsequent periodic sampling to assess process behavior relative to historical limits. SPC will be performed on waste prior to solidification or packaging for ease of sampling. If the limits are exceeded for any toxicity characteristic parameter, the waste stream shall be recharacterized, and the characterization shall be performed according to procedures required in the WAP.~~

*This section describes how sites may use control charts (a statistical process control technique) of sample data to verify that homogeneous solids remain consistent as the new waste is generated. Refer to the WAP, Section B-3d(1)a, for specific requirements. Use of control charts is optional.*

**COMMENT 163: Attachment B-3d(1)(a), Page B-16, Lines 22 to 35 and Page B-17, Lines 1-3**

**A. Draft Permit Module or Attachment Text**

*The records generated by the process procedures will be examined weekly for indications of process changes or limits being exceeded that would change the output of that process. If these changes are discovered, the Permittees will notify NMED and **will not manage, store or dispose** ~~the cease shipment of that waste stream until a follow-up sample of process waste is collected and analyzed to assess whether the container contents are within those identified on the Waste Stream Profile Form. If the second analysis is not consistent with the Waste Stream Profile Form information, all waste containers in question will be segregated and a new Waste Stream Profile Form and waste generation procedures/bounds will be established. Records of that analysis will be available for examination by the auditors and will be provided to NMED upon request. If records of the analysis are not available, the Permittees will not accept the waste stream at the WIPP facility for disposal. If a generator/storage site changes a process but determines that increased sampling is not required because the change will not affect waste generated by that process, the Permittees and NMED shall be notified in the form of a memorandum to the DOE's Carlsbad Area Office (CAO) Waste Characterization Manager. ~~Both~~ **The Permittees and NMED shall concur with the decision to not increase the sampling frequency before any additional waste from that process is shipped, and NMED will be notified of the Permittees' decision.**~~*

**B. Discussion of the Draft Permit Condition**

a. The first sentence should be revised as follows, "The records generated by the process procedures will be examined periodically for indications of process changes...Generator/storage sites shall document the justification of the time period for examining each process."

b. The second sentence should be revised as follows, "If these changes are discovered, the Permittees will be notified and will not manage, store or dispose the waste stream..."

It is not necessary to examine records on a weekly basis to discover process changes. Many waste processes operate in predictable ways. The generator/storage sites are best equipped to determine the appropriate frequency for this record examination based on the observed fluctuations in the waste stream.

In addition, requiring the Permittees to notify NMED of these changes exceeds the regulations which state that such information be maintained in the Operating Record to the extent they alter the waste characterization information maintained by the Permittees. The Operating Record is available to the NMED for inspection.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-3d(1)(a), Page B-16, Lines 22 to 35 and Page B-17, Lines 1 to 3**

~~The records generated by the process procedures will be examined weekly for indications of process changes or limits being exceeded that would change the output of that process. If these changes are discovered, the Permittees will notify NMED and will not manage, store or dispose the waste stream until a follow-up sample of process waste is collected and analyzed to assess whether the container contents are within those identified on the Waste Stream Profile Form. If the second analysis is not consistent with the Waste Stream Profile Form information, all waste containers in question will be segregated and a new Waste Stream Profile Form and waste generation procedures/bounds will be established. Records of that analysis will be available for examination by the auditors and will be provided to NMED upon request. If records of the analysis are not available, the Permittees will not accept the waste stream at the WIPP facility for disposal. If a generator/storage site changes a process but determines that increased sampling is not required because the change will not affect waste generated by that process, the Permittees and NMED shall be notified in the form of a memorandum to the DOE's Carlsbad Area Office (CAO) Waste Characterization Manager. The Permittees shall concur with the decision to not increase the sampling frequency before any additional waste from that process is shipped, and NMED will be notified of the Permittees' decision.~~

**COMMENT 164: Attachment B-4a(1), Page B-19, Lines 23 to 28**

**A. Draft Permit Module or Attachment Text**

*To report the average concentration of hazardous constituents in a waste stream, as specified in 20 NMAC 2.1.200 (incorporating 40 CFR §261) Appendix VIII, with a ~~90-95~~ percent confidence interval, with all averages greater than ~~PRQL~~ **MDL** considered a detection and subsequent assignment of the waste as a hazardous waste, and to confirm hazardous waste identification by acceptable knowledge.*

**B. Discussion of the Draft Permit Condition**

This condition should be revised for two reasons. First, the use of the Method Detection Limit (MDL) in this condition is incorrect. MDLs vary by method used. For TC contaminants, there are Regulatory Threshold Limits (RTLs) to compare against. For these sampling activities, the PRQL should be used instead of the MDL. Current wording is inconsistent with other portions of the draft permit establishing conditions for headspace gas sampling, where EPA codes are only assigned if the measured constituent concentration exceeds the PRQL for 25% of the waste containers in the waste stream. (See Attachment B4, Section B4-3d Page B4-14 Lines 9-27).

Second, the trace presence of a hazardous constituent does not make a waste hazardous according to the applicable regulations. The presence alone of Appendix VIII constituents do not render a waste hazardous by the toxicity characteristic or as a listed waste. Hazardous waste determination is completed using acceptable knowledge and sampling and analysis.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-4a(1), Page B-19, Lines 23 to 28**

*To report the average concentration of hazardous constituents in a waste stream, as specified in 20 NMAC 2.1.200 (incorporating 40 CFR §261) Appendix VIII, with a 90 percent confidence interval, with all averages greater than ~~PRQL~~~~MDL~~ considered a detection and subsequent assignment of the waste as a hazardous waste **(if an adequate explanation for the constituent cannot be determined)**, and to confirm hazardous waste identification by acceptable knowledge.*

COMMENT 165: Attachment B-4a(5), Page B-23, Lines 25 to 41, Page B-24, Lines 1 to 8

**A. Draft Permit Module or Attachment Text**

*The first level of data verification by the generator/storage site will confirm that the waste characterization data are properly reported for the characterized TRU mixed waste containers that will be shipped to the WIPP. Data review, validation, and verification procedures used by the generator/storage sites are required to ensure that 100 percent of the data reported has received an independent technical review to assure that data generation and reduction were conducted in a technically correct manner, calculations have been verified correct, and all variances from accepted analytical methods (appropriate to the waste type being analyzed) have been documented and approved. **Batch data reports** ~~Data packages~~ will be reviewed by generator/storage sites for completeness to verify that they include field sampling records, raw analytical data, calculation records, COC documentation, calibration records, QA sample results, and that sample holding times and preservation methods were met or exceptions documented. Completed **batch data reports** ~~data packages~~ shall be signed by the technical supervisor and a QA reviewer. At the Project level of verification (Level 2), 100 percent of the analytical, testing and sampling batch data reports are subject to review to ensure that data useability and DQO criteria are met, that all required reviews have been performed and documented, that review checklists are complete, and that all data are correctly reported (refer to Permit Attachment B3). At the second level of verification the Generator/Storage Site Project Manager, ~~the Generator/Storage Site Data Validation Officer,~~ and the Generator/Storage Site Data QA Officer will also ensure that a repeat of this review is performed for at least one randomly chosen container ~~quarterly~~ weekly. Finally, **if a batch data report is requested by the Permittees**, a check for the required **batch data report** ~~data package~~ elements will be performed by the ~~Permittees~~ WIPP Waste Operations section as the third level of verification ~~for data packages~~ to assure that ~~data packages~~ **batch data reports** are complete. Figure B-4 shows the components of each level of data verification. Data verification and requirements are discussed in more detail in Permit Attachment B3.*

**B. Discussion of the Draft Permit Condition**

The quarterly review required by the second level of verification should be eliminated because it is unnecessary. Furthermore, the third level verification requiring review

of batch data reports by the Permittees is redundant to the other extensive oversight activities and should also be deleted.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B-4a(5), Page B-23, Lines 25 to 41, Page B-24, Lines 1 to 8**

*The first level of data verification by the generator/storage site will confirm that the waste characterization data are properly reported for the characterized TRU mixed waste containers that will be shipped to the WIPP. Data review, validation, and verification procedures used by the generator/storage sites are required to ensure that 100 percent of the data reported has received an independent technical review to assure that data generation and reduction were conducted in a technically correct manner, calculations have been verified correct, and all variances from accepted analytical methods (appropriate to the waste type being analyzed) have been documented and approved. Batch data reports will be reviewed by generator/storage sites for completeness to verify that they include field sampling records, raw analytical data, calculation records, COC documentation, calibration records, QA sample results, and that sample holding times and preservation methods were met or exceptions documented. Completed batch data reports shall be signed by the technical supervisor and a QA reviewer. At the Project level of verification (Level 2), 100 percent of the analytical, testing and sampling batch data reports are subject to review to ensure that data useability and DQO criteria are met, that all required reviews have been performed and documented, that review checklists are complete, and that all data are correctly reported (refer to Permit Attachment B3). ~~At the second level of verification the Generator/Storage Site Project Manager and the Generator/Storage Site Data QA Officer will also ensure that a repeat of this review is performed for at least one randomly chosen container quarterly. Finally, if a batch data report is requested by the Permittees, a check for the required batch data report elements will be performed by the Permittees as the third level of verification to assure that batch data reports are complete. Figure B-4 shows the components of each level of data verification. Data verification and requirements are discussed in more detail in Permit Attachment B3.~~*

COMMENT 166: Attachment B-4b(1)(ii), Page B-30, Lines 16 to 28

A. Draft Permit Module or Attachment Text

*The Permittees ~~Environmental Compliance and Support~~ will also verify that three different types of data **specified below** ~~related to the WAP~~ are on every container holding TRU mixed waste before a shipment leaves the generator site for the WIPP facility **that waste is managed, stored, or disposed at WIPP**. The **following** three verifications will be performed on data from the following determinations: 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** ~~waste characterization data package~~ for consistency in the waste stream description **and WSPF**. The **WWIS** ~~data package~~ will also 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.*

B. Discussion of the Draft Permit Condition

The following requirements should be deleted: "The WWIS will also indicate if the waste has been checked for the characteristics of ignitability, corrosivity, and reactivity" because the WWIS does not include a check for corrosives, ignitables, and reactives. This is addressed during radiography operations through the identification of prohibited items (i.e., free liquids, pressurized containers, sealed containers greater than 4 liters) and acceptable knowledge. Containers with prohibited items are rejected at that time and, therefore, will not be entered into the WWIS.

Generator/storage site compliance with the requirement to exclude prohibited items is assessed through DOE/CAO audits of generator/storage site radiography records or acceptable knowledge documentation; site policies/procedures prohibiting characteristic wastes in newly generated wastes; and/or treatment to eliminate the characteristic waste properties. The absence of these prohibited items within a specific waste stream is documented during the preparation of the Waste Stream Profile Form (WSPF). Verification of the absence within a specific waste stream is performed at the time the WSPF is reviewed.

C. Proposed Revisions to the Draft Permit

**1. Attachment B-4b(1)(ii), Page B-30, Lines 16 to 28**

*The Permittees will also verify that three different types of data specified below are ~~on~~ available for every container holding TRU mixed waste before that waste is managed, stored, or disposed at WIPP. The following three verifications will be performed on data from the following determinations: 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 WWIS will also 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.*



COMMENT 167: Attachment B1-1a, Page B1-1, Lines 9 to 24

A. Draft Permit Module or Attachment Text

*The Permittees shall require all headspace-gas sampling will be performed within a radiation containment area (e.g., glove box or hot/warm cell) on waste containers that are in compliance with the container equilibrium requirements (i.e. 72 hours at 18 - 29 ° C room temperature). within a radiation containment area (e.g., glove box or hot/warm cell). All waste containers designated as summary category S5000 (Debris waste) shall be sampled for headspace gas a minimum of 142 days after packaging and all waste containers designated as summary categories S3000 (Homogenous solids) and S4000 (Soil/gravel) shall be sampled a minimum of 225 days after packaging. This drum age criteria is to ensure that the drum contents have reached 90 percent of steady state concentration within each layer of confinement (Lockheed, 1995). The equilibrium time and drainage of all containers will be documented in headspace gas sampling documents. The configuration of the containment area and remote-handling equipment at each sampling facility are expected to differ. The Permittees shall require that a description of the containment area and remote-handling equipment must be is provided in the site quality assurance project plan (QAPjP) for each generator/storage facility site. Headspace-gas samples will be analyzed for the analytes listed in Table B3-2 of Permit Attachment B3.*

B. Discussion of the Draft Permit Condition

Certain provisions of this condition relating to radiation and radiation control should be deleted because they are outside the scope of the HWA. Specifically, neither glovebox nor a hot/warm cell is needed for protection from radiation levels of CH TRU mixed waste. Furthermore, the required sampling activities (e.g., pressing a needle through the filter vent) cannot realistically be performed through glovebox ports.

The Permittees should determine the best manner in which to manage radioactive materials. This is done through a rigorous process that involves the analysis of the hazards involved, the risks posed by those hazards, and the effectiveness of mitigation measures. Results are documented in a Safety Analysis Report or similar risk analysis report. Only after such action is taken, can an operator proceed with waste characterization activities, and only in the manner determined through the safety analysis process. By arbitrarily stipulating the kind of enclosure or protection needed for the waste characterization process, the NMED potentially short circuits the safety analysis process which could result in inappropriate protection of the

operations. Therefore, these stipulations should be removed from the draft permit so that the Permittees have the flexibility to manage such operations in the manner that is best for the protection of human health and the environment.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B1-1a, Page B1-1, Lines 9 to 24**

*The Permittees shall require all headspace-gas sampling be performed within a radiation containment area (e.g., glove box or hot/warm cell) on waste containers that are in compliance with the container equilibrium requirements **determined by each generator/storage site based on container characteristics and layers of confinement involved** (i.e. 72 hours at 18 - 29 °C). All waste containers designated as summary category S5000 (Debris waste) shall be sampled for headspace gas a minimum of 142 days after packaging and all waste containers designated as summary categories S3000 (Homogenous solids) and S4000 (Soil/gravel) shall be sampled a minimum of 225 days after packaging. This drum age criteria is to ensure that the drum contents have reached 90 percent of steady state concentration within each layer of confinement (Lockheed, 1995). The equilibrium time and **drum age** drainage of all containers will be documented in headspace gas sampling documents. The configuration of the containment area and remote-handling equipment at each sampling facility are expected to differ. ~~The Permittees shall require that a description of the containment area and remote-handling equipment is provided in the site quality assurance project plan (QAPjP) for each generator/storage site. Headspace-gas samples will be analyzed for the analytes listed in Table B3-2 of Permit Attachment B3.~~*

COMMENT 168: Attachment B1-2a(2), Page B1-15, Lines 29 to 37, Page B1-16, Lines 1 to 12

A. Draft Permit Module or Attachment Text

- *Samples of homogenous solids and soil/gravel for VOC analyses shall be collected prior to extruding the core from the liner. Three ~~sub-~~ samples will be collected from the vertical core **to form a single 15 gram composite sample**. The sampling locations shall be randomly selected within three equal-length subsections of the one along the long axis of the liner and access to the waste shall be gained by making a perpendicular cut through the liner and the core. **The Permittees shall require sites shall to** develop documented procedures to select, and record the selection, of random sampling locations. True random sampling involves the proper use of random numbers for identifying sampling locations. The procedures used to select the random sampling locations will be subject to review as part of annual audits by the Permittees. A sampling device such as the metal coring cylinder described in EPA's SW-846 Manual (1996), or equivalent, shall be immediately used to collect ~~the~~ a 15-gram sample once the core has been exposed to air. Immediately after sample collection, the samples shall be extruded into 40-mL volatile organics analysis (VOA) vials, the top rim of the vials visually inspected and wiped clean of any waste residue, and the vial caps secured. Sample handling requirements are outlined in Table B1-4. Additional guidance for this type of sampling can be found in SW-846 (EPA 1996). ~~Each of the three samples will be analyzed, with the calculated mean concentration of each analyte will be considered the analyte concentration for that container.~~*

B. Discussion of the Draft Permit Condition

The following requirements should be deleted from this condition: "Three sub-samples will be collected from the vertical core to form a single 15 gram composite sample. The sampling locations shall be randomly selected within three equal-length subsections of the one along the long axis of the liner and access to the waste shall be gained by making a perpendicular cut through the liner and the core." This text should be replaced with: "The sampling locations shall be randomly selected along the long axis of the liner and access to the waste shall be gained by making a perpendicular cut through the liner and the core." In addition, the third bullet text (page B1-16, line 15) should change the reference from "sub-sample" to "sample".

Three sub-samples are unnecessary for the following reasons: 1. This sampling is

performed to determine the variability within the waste stream and is not intended to characterize the variability within each drum. The variability within a drum is irrelevant given that any particular sample is randomly located, and therefore, a single sample per drum is adequate; 2. Sampling of the cores is based on a truly random coordinate location scheme in three dimensions. Taking three sub-samples along the core length contradicts the random location of the vertical coordinate for obtaining a sample; and 3. EPA does not allow that samples for volatile organic analysis be composited, because compositing tends to aerate the matrix, releasing the volatiles and biasing the sample results.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B1-2a(2), Page B1-15, Lines 29 to 37, Page B1-16, Lines 1 to 12**

*Samples of homogenous solids and soil/gravel for VOC analyses shall be collected prior to extruding the core from the liner. **The sampling locations shall be randomly selected along the long axis of the liner and access to the waste shall be gained by making a perpendicular cut through the liner and the core.** ~~Three sub-samples will be collected from the vertical core to form a single 15 gram composite sample. The sampling locations shall be randomly selected within three equal-length subsections of the one along the long axis of the liner and access to the waste shall be gained by making a perpendicular cut through the liner and the core.~~ The Permittees shall require sites to develop documented procedures to select, and record the selection, of random sampling locations. True random sampling involves the proper use of random numbers for identifying sampling locations. The procedures used to select the random sampling locations will be subject to review as part of annual audits by the Permittees. A sampling device such as the metal coring cylinder described in EPA's SW-846 Manual (1996), or equivalent, shall be immediately used to collect the 15-gram sample once the core has been exposed to air. Immediately after sample collection, the sample shall be extruded into 40-mL volatile organics analysis (VOA) vials, the top rim of the vial visually inspected and wiped clean of any waste residue, and the vial cap secured. Sample handling requirements are outlined in Table B1-4. Additional guidance for this type of sampling can be found in SW-846 (EPA 1996).*

COMMENT 169: Attachment B1-3b(3), Page B1-24, Lines 18 to 40

A. Draft Permit Module or Attachment Text

As an additional QC check, *or in lieu of radiography*, the **waste container contents** ~~radiography results~~ shall be verified directly by visual examination of the waste container contents after the completion of the headspace gas sampling. Visual examination shall be performed on a statistically determined portion of waste containers to verify the results of radiography. The radiography results shall not be made available until after the visual examination is completed. This verification shall include the Waste Matrix Code and waste material parameter weights. The verification shall be performed through a comparison of radiography and visual examination results. The results of the visual examination shall be transmitted to the radiography facility.

*Visual examination shall be conducted to describe all contents of a waste container, and includes estimated or measured weights of the contents. The description shall clearly identify all discernible waste items, residual materials, packaging materials, or waste material parameters. Visual examination experts who are experienced and trained shall assess the need to open individual bags or packages of waste. If individual bags/packages are not opened, estimated weights shall be recorded. Estimated weights shall be established through the use of historically derived waste weight tables and an estimation of the waste volumes. It may not be possible to see through inner bags because of discoloration, dust, or because inner containers are sealed. In these instances, documented acceptable knowledge may be used to identify the matrix parameter category and estimated waste material parameter weights. If acceptable knowledge is insufficient for individual bags/packages, actual weights of waste items, residual materials, packaging materials, or waste material parameters shall be recorded. All visual examination activities shall be documented on video/audio tape and the results of all visual examination shall be documented on visual examination data forms.*

B. Discussion of the Draft Permit Condition

Several conditions in the second draft require the measurement of "...all contents of a waste container, and includes estimated or measured weights of the contents." Waste material parameters and waste weight information specified in these conditions are not regulated under the HWA and should be deleted.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B1-3b(3), Page B1-24, Lines 18 to 40**

*As an additional QC check, or in lieu of radiography, the waste container contents shall be verified directly by visual examination of the waste container contents after the completion of the headspace gas sampling. Visual examination shall be performed on a statistically determined portion of waste containers to verify the results of radiography. The radiography results shall not be made available until after the visual examination is completed. This verification shall include the Waste Matrix Code and waste material parameter weights. The verification shall be performed through a comparison of radiography and visual examination results. The results of the visual examination shall be transmitted to the radiography facility.*

*Visual examination shall be conducted to describe ~~all~~ contents of a waste container; ~~and includes estimated or measured weights of the contents.~~ The description shall clearly identify all discernible waste items, residual materials, **or** packaging materials; ~~or waste material parameters.~~ Visual examination experts who are experienced and trained shall assess the need to open individual bags or packages of waste. ~~If individual bags/packages are not opened, estimated weights shall be recorded. Estimated weights shall be established through the use of historically derived waste weight tables and an estimation of the waste volumes. It may not be possible to see through inner bags because of discoloration, dust, or because inner containers are sealed. In these instances, documented acceptable knowledge may be used to identify the matrix parameter category and estimated waste material parameter weights. If acceptable knowledge is insufficient for individual bags/packages, actual weights of waste items, residual materials, packaging materials, or waste material parameters shall be recorded.~~ All visual examination activities shall be documented on video/audio tape and the results of all visual examination shall be documented on visual examination data forms.*

#### **2. Attachment B3-4, Page B3-11, Line 10**

*The QAOs for radiography are detailed in this section. If the QAOs described below are not met, then corrective action shall be taken. It should be noted that radiography does not have a specific MDL because it is primarily a qualitative determination. The objective of radiography for the program is to verify the waste matrix code and identify prohibited items (**free liquids above Permittee WAC limits, pressurized containers, sealed containers greater than 4 liters**) for each waste container and to estimate each waste material parameter weight (Table B3-1). The Permittees shall require each site to describe all activities required to achieve these objectives in the site quality assurance project plan (**QAPJP**) and standard operating procedures (**SOP**).*

**3. Attachment B3-4, Page B3-11, Line 26**

*The qualitative determinations, such as verifying the waste matrix code, made during radiography do not lend themselves to statistical evaluation of precision because of the qualitative nature of the inspection. However, comparison of data derived from radiography and visual examination on the same waste containers at the Rocky Flats Environmental Technology Site and the Idaho National Engineering Laboratory indicates that radiography operators can provide estimated inventories and weights of waste items in a waste container. As a measure of precision, the Permittees shall require each Site Project QA Officer to calculate and report the RPD between the estimated waste material parameter weights as determined by radiography and these same parameters as determined by visual examination. Additionally, the precision of radiography is verified prior to use by tuning precisely enough to resolve a 2-2T hole in a steel block and through viewing an image test pattern.*



**COMMENT 170: Attachment B1-4, Page B1-26, Lines 13 to 23**

**A. Draft Permit Module or Attachment Text**

*Chain-of-Custody on field samples (including field QC samples) will be initiated immediately after sample collection or preparation. Sample custody will be maintained by ensuring that custody sealed samples are in the possession of an authorized individual, in their **that individual's** view, ~~it is in possession in sealed or locked container~~ **controlled by that individual**, or is in a secure controlled access location. Sample custody will be maintained until the associated analyses are completed and the data have been validated at the project level. Sample custody will be maintained until the sample is expended or until the sample is removed from the sample analysis program. **The Permittees shall require that site QAPjPs will include a copy of the sample chain-of-custody form and instructions for completing sample chain-of-custody forms in a legally defensible manner. This form will include provisions for each of the following:***

**B. Discussion of the Draft Permit Condition**

The second draft requires that chain of custody forms be included in the generator/storage site QAPjP. Requiring this level of detail in all QAPjPs is unnecessary and inconsistent with other QAPjP contents requirements. Instead, it is more appropriate to require that QAPjPs specify that a chain of custody form be used and to stipulate the minimum requirements for such forms.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B1-4, Page B1-26, Lines 13 to 23**

*Chain-of-Custody on field samples (including field QC samples) will be initiated immediately after sample collection or preparation. Sample custody will be maintained by ensuring that custody sealed samples are in the possession of an authorized individual, in that individual's view, in sealed or locked container controlled by that individual, or in a secure controlled access location. Sample custody will be maintained until the associated analyses are completed and the data have been validated at the project level. Sample custody will be maintained until the sample is expended or until the sample is removed from the sample analysis program. The Permittees shall require that site QAPjPs **specify that a** ~~include a copy of the sample chain-of-custody form~~ **be used** and ~~that~~ **instructions for completing sample chain-of-custody forms be completed** in a legally defensible manner. This form will include provisions for each of the following:*



**COMMENT 171: Attachment B1-5, Page B1-27, Lines 29 to 38**

**A. Draft Permit Module or Attachment Text**

*Glass jars are wrapped in bubble wrap or another type of protection. The wrapped jar should be placed in a plastic bag inside of the shipping container, so that if the jar breaks, the inside of the shipping container and the other samples will not be contaminated. The plastic bag will enable the receiving analytical lab to prevent contamination of their shipping and receiving area. Plastic jars do not present a problem for shipping purposes. All shipping containers will contain appropriate blank samples to detect any VOC cross-contamination. A DOT approved cooler, or similar package may be used as the shipping container. If temperatures must be maintained, an adequate number of cold packs necessary to maintain the preservation temperature shall be added to the package. If fill material is needed, compatibility between the samples and the fill should be evaluated prior to use.*

**B. Discussion of the Draft Permit Condition**

The requirement for trip blanks should be deleted because SW-846 does not require trip blanks. In addition, the use of trip blanks poses a problem in that water is not allowed in radioactive waste shipping containers under some circumstances.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B1-5, Page B1-27, Lines 29 to 38**

*Glass jars are wrapped in bubble wrap or another type of protection. The wrapped jar should be placed in a plastic bag inside of the shipping container, so that if the jar breaks, the inside of the shipping container and the other samples will not be contaminated. The plastic bag will enable the receiving analytical lab to prevent contamination of their shipping and receiving area. Plastic jars do not present a problem for shipping purposes. ~~All shipping containers will contain appropriate blank samples to detect any VOC cross-contamination.~~ A DOT approved cooler, or similar package may be used as the shipping container. If temperatures must be maintained, an adequate number of cold packs necessary to maintain the preservation temperature shall be added to the package. If fill material is needed, compatibility between the samples and the fill should be evaluated prior to use.*

**COMMENT 172: Attachment B3-2, Page B3-6, Lines 34 to 36 and Page B3-7, Lines 1 to 2**

**A. Draft Permit Module or Attachment Text**

*The precision of the headspace-gas sampling and analysis operation must be assessed by **sequential**-simultaneous collection of field duplicates for VOCs determination at a frequency of one field duplicate for every 20 drums sampled or per sampling batch. Corrective actions must be taken if the RPD exceeds 25 percent for any analyte **found greater than the PRQL in either of the duplicate samples.***

**B. Discussion of the Draft Permit Condition**

This condition should be changed to allow sequential collection of field duplicates for manifold sampling operations or simultaneous collection of field duplicates for direct canister sampling operations for VOCs determination. The approved sampling operations require sequential collection of duplicates for manifold and on-line operations and simultaneous collection of duplicates for direct canister operations, which is fully protective of human health and the environment.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B3-2, Page B3-6, Lines 34 to 36 and Page B3-7, Lines 1 to 2**

*The precision of the headspace-gas sampling and analysis operation must be assessed by sequential collection of field duplicates for **manifold sampling operations or simultaneous collection of field duplicates for direct canister sampling operations** for VOCs determination ~~at a frequency of one field duplicate for every 20 drums sampled or per sampling batch.~~ Corrective actions must be taken if the RPD exceeds 25 percent for any analyte found greater than the PRQL in either of the duplicate samples.*

**COMMENT 173: Attachment B3-10, Page B3-27, Lines 7 to 10**

**A. Draft Permit Module or Attachment Text**

- *Sampling batch QC checks (e.g., equipment blanks, field duplicates, field reference standards) were properly performed, and meet the established **DQOs and are within established data useability criteria** ~~QAOs~~.*

**B. Discussion of the Draft Permit Condition**

The reference to DQO should be changed to QAO in the three bullets. In this Quality Assurance Objectives (QAOs) not Data Quality Objectives (DQOs), are the appropriate reference.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B3-10, Page B3-27, Lines 7 to 10**

- *Sampling batch QC checks (e.g., equipment blanks, field duplicates, field reference standards) were properly performed, and meet the established **QAO** ~~DQOs~~ and are within established data useability criteria.*

**COMMENT 174: Attachment L-4c(1), Page L-17, Lines 1 to 13**

**A. Draft Permit Module or Attachment Text**

*Ground-water surface elevation measurements will be taken monthly in at least one accessible completed interval at each available well pad. At well pads with two or more wells completed in the same interval, quarterly measurements will be taken in the redundant wells (well locations are shown in Figure L-18). Ground-water surface elevation measurements will be taken monthly at each of the seven DMP wells, as well as prior to each sampling event. **If a cumulative ground-water surface elevation change of more than 2 feet is detected in any DMP well over the course of one year which is not attributable to site tests or natural stabilization of the site hydrologic system, the Permittees will notify NMED in writing and discuss the origin of the changes in the report specified in Permit Module V. Abnormal, unexplained changes in ground-water surface elevation may indicate changes in site recharge/discharge which could affect the assumptions regarding DMP well placement and constitute new information as specified in 20 NMAC 4.1.900 (incorporating 40 CFR §270.41(a)(2)).***

**B. Discussion of the Draft Permit Condition**

The selection of the action level of 2 feet of change in groundwater level is arbitrary and potentially unrealistic. The requirements to provide additional reporting and explanations for water level rises over 2 feet should be deleted. The Permittees have previously noted instances of unexplained water level changes in the region. These could not be attributed to the commonly known anthropogenic causes such as WIPP activity or potash mining. In all cases, the Permittees' determined that such changes would not impact the performance of the WIPP as a TRU waste repository. In fact, the Permittees' model the water level rising to the surface and show that there is negligible impact to WIPP's performance. This is due to the fact that the repository is below the water table and isolated from it by a thousand foot barrier that is virtually impermeable. Because of this, it is unrealistic to assume that any water level rise, whether explained or unexplained, would be of significance to the WIPP.

The reason for water level measurements in the regulations is to determine if a surface based disposal facility is sufficiently isolated from groundwater so that environmental risk is minimized. Because the WIPP does not dispose of hazardous waste in surface based facilities, changes in water levels are irrelevant.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment L-4c(1), Page L-17, Lines 1 to 13**

*Ground-water surface elevation measurements will be taken monthly in at least one accessible completed interval at each available well pad. At well pads with two or more wells completed in the same interval, quarterly measurements will be taken in the redundant wells (well locations are shown in Figure L-18). Ground-water surface elevation measurements will be taken monthly at each of the seven DMP wells, as well as prior to each sampling event. ~~If a cumulative ground-water surface elevation change of more than 2 feet is detected in any DMP well over the course of one year which is not attributable to site tests or natural stabilization of the site hydrologic system, the Permittees will notify NMED in writing and discuss the origin of the changes in the report specified in Permit Module V. Abnormal, unexplained changes in ground-water surface elevation may indicate changes in site recharge/discharge which could affect the assumptions regarding DMP well placement and constitute new information as specified in 20-NMAC 4.1.900 (incorporating 40-CFR §270.41(a)(2)).~~*

**COMMENT 175: Attachment L-4c(1), Page L-17, Lines 23 to 29**

**A. Draft Permit Module or Attachment Text**

*Interpretation of ground-water surface elevation measurements and corresponding fluctuations over time is complicated at WIPP by spatial variation in fluid density both vertically in well bores and really from well to well. To monitor the hydraulic gradients of the hydrologic flow systems at WIPP accurately, actual ground-water surface elevation measurements and the densities of the fluids in the well bores will be monitored. When both of these parameters are known, equivalent freshwater heads will be calculated. The concept of freshwater head is discussed in Lusczynski (1961).*

**B. Discussion of the Draft Permit Condition**

The condition in Attachment L regarding the measurement of fluid densities is ambiguous and could be interpreted to require the monitoring of fluid densities. The result would be an onerous fluid density measurement program that is unnecessary. In the permit application, the Permittees explained that fluid density measurements were conducted in the early groundwater surveillance program. This one-time fluid density survey program characterized the fluid densities in the various groundwater level measurement wells around the WIPP facility. The condition should be rewritten to clearly exclude the need to repeat fluid density measurements in groundwater level wells for which such measurements have already been made.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment L-4c(1), Page L-17, Lines 23 to 29**

*Interpretation of ground-water surface elevation measurements and corresponding fluctuations over time is complicated at WIPP by spatial variation in fluid density both vertically in well bores and really from well to well. To monitor the hydraulic gradients of the hydrologic flow systems at WIPP accurately, actual ground-water surface elevation measurements ~~and the densities of the fluids in the well bores will be monitored~~, **and one-time densities of fluids in the well bores will be measured**. When both of these parameters are known, equivalent freshwater heads will be calculated. The concept of freshwater head is discussed in Lusczynski (1961).*

**COMMENT 176: General Comment on November 13, 1998 Revised Draft Technical Support Document**

**A. Discussion**

**General:** The Permittees have completed a significant set of analyses as part of the Voluntary Release Assessment/Corrective Action Program (VRA/CA), over the period 1995 through the present. A list of the significant deliverables to the NMED follow:

- *Voluntary Release Assessment/Corrective Action Work Plan for Solid Waste Management Units (DOE/WIPP Draft-2115, July 1995)*
- *Data Summary Reports Nos. 1-4, Solid Waste Management Units Identified in the Waste Isolation Pilot Plant RCRA Facility Assessment (1995-1996)*
- *Final Voluntary Release Assessment/Corrective Action Report (DOE/WIPP 96-2209, November 1996)*
- *Final Solid Waste Management Unit Assessment Report (DOE/WIPP 97-2220, January 10, 1997)*
- *Supplemental Information Requested by the New Mexico Environment Department for Solid Waste Management Units, (DOE/WIPP 97-2220a, May 2, 1997)*
- *Human Health and Ecological Risk Assessment, Waste Isolation Pilot Plant, Solid Waste Management Units (DOE/WIPP 98-2292)*
- *Supplemental Information and Documentation for Comment 127: Draft Permit Module VII.M.2, Page VII-17 (August 24, 1998)*
- *Tables and Appendixes Included by Reference in DOE/WID's Comment 127 for the WIPP Solid Waste Management Units (September 3, 1998)*

Additional correspondence and meetings have occurred between the Permittees, EPA Region 6, and the NMED throughout the above process. The Permittees have maintained a proactive approach in communicating with and responding to the agencies on Solid Waste Management Units (SWMUs) issues. As manifested in the list of documents above, a significant effort and large body of information has been compiled for these SWMUs and Areas of Concern (AOCs). Information includes sampling data, risk assessments, drilling records, and other supporting documents for materials disposed of in the SWMUs. Therefore, it is the Permittees' position that

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more than sufficient information has been compiled to warrant No Further Action (NFA) determinations for the SWMUs and deletion of the SWMUs and AOCs from the Permit.

**Section TSD 01.0:** Section 1.0 of the TSD summarizes the number of SWMUs and AOCs included in Module VII of the revised draft Part B Permit, and references the listings of these SWMUs/AOCs in Tables 2, 2A, and 3. The Permittees' position regarding the listing of these units is unchanged since the May 15, 1998, draft of the Permit, and is presented in detail in two recent submittals to the NMED: 1) *Supplemental Information and Documentation for Comment 127: Draft Permit Module VII.M.2, Page VII-17*, and 2) *Human Health and Ecological Risk Assessment, Waste Isolation Pilot Plant, Solid Waste Management Units (DOEWIPP 98-2292)*. These two documents were hand-delivered to the NMED on September 14, 1998. The Permittees' general position on the SWMUs/AOCs identified in Module VII and the TSD is summarized below:

- SWMUs included in the Draft RCRA/HSWA Permit (TSD Table 2): Sampling and data evaluation performed under the RFA and the VRA/CA Program, followed by a human health and ecological risk assessment, demonstrated no risk at eight SWMUs and only slightly elevated risk at three of the SWMUs identified in TSD Table 2 (SWMUs 001I, 001x, and 004a). Per EPA guidance, additional investigation of these three SWMUs is not necessary unless valued ecological resources can be identified for protection at these units. The VRA/CA Program also compiled detailed arguments in support of voluntary corrective actions (caliche caps) at three other mudpit SWMUs listed in TSD Table 2. Also, the Permittees' request for NFAs and recommended corrective action for the SWMUs 001o, 001p, and 001g in TSD Table 2 should be accepted in the final permit.
- SWMUs Included in the Draft RCRA/HSWA Permit Not Requiring an RFI (Group 013, TSD Table 2A): These units do not meet the definition of a SWMU or an AOC under the Permit (they do not exist). As such, they meet NFA Criterion 1. Identification of these units as SWMUs/AOCs by the NMED in itself contradicts the requirements of the Permit (i.e., the requirements for identification and reporting of SWMUs/AOCs). Because this SWMU group does not include any locations that meet the definition of a SWMU, the Permittees formally request a NFA determination for this group, and that these units be deleted as SWMUs or AOCs from the final permit. When these locations become SWMUs in the future, other portions of the Permit will be applicable, such as identification, notification, and other activities related to newly identified SWMUs.
- AOCs Included in the Draft RCRA/HSWA Permit (TSD Table 3): Drilling



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records obtained for the mudpit AOCs show that releases of hazardous constituents of concern are highly improbable at these units. At the sump AOCs, there are no release pathways or receptors for any releases of metals from these units.

Supporting arguments for these positions are presented in detail in the above-referenced submittals to the NMED. The information compiled by the Permittees is sufficient to justify NFA determinations at the SWMU/AOCs introduced in TSD Section 1.0 and TSD Tables 2, 2A, and 3. Accordingly, the Permittees request the exclusion of these units from Module VII of the Permit.

The TSD requires additional discussion by the NMED that acknowledges receipt and review of the Permittees recent submittals. Furthermore, the TSD needs to state whether or not these submittals provide sufficient grounds for NFA determinations at the WIPP SWMUs/AOCs identified in the TSD, and if not, why not. Given the significant amount of analytical data and other information that have been compiled for them by the Permittees, NMED has all the information necessary to make NFA decisions for these SWMUs and AOCs.

**Section TSD 08.3.2:** The NMED states that a background soil concentration reported for thallium during the VRA/CA Program "appears to be an outlier." The NMED then denies the Permittees' requests for NFA for five SWMUs based solely on thallium. In the time since the May 15, 1998 draft of the Permit was submitted, the Permittees performed a validation of the thallium data collected during the VRA/CA Program. The Permittees' validation found that the "outlier" referred to by the NMED, as well as the other detections of thallium reported during the VRA/CA Program, were qualified as not detected due to laboratory contamination and instrument performance problems. The findings of the Permittees' validation are presented in detail in *DOE/WIPP 98-2292*.

Based on the validation findings, thallium was reported as not detected at a minimum reporting limit of 20 mg/kg in the soil samples collected during the VRA/CA Program. Subsequent verification analyses of a subgroup (approx. 5 percent) of the VRA/CA samples showed thallium as not detected at a reporting limit of 1 mg/kg (see *DOE/WIPP 96-2209*). Based on these data, thallium is not a constituent of concern at the SWMUs (no detections were reported). As such, thallium was not included in the Permittees' risk assessments per EPA guidance (see Item 6 of the comment below on Section 9.0 of the revised TSD).

Based on the nondetections of thallium in both the investigative samples and the subgroup of confirmation samples, the Permittees request a NFA determination for SWMUs, 001k, 001m, 001n, 001s, and 001t that have been listed solely for thallium.

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The NMED's revised text in Section 08.3.2 does not acknowledge the Permittees' validation findings. The Permittees request NMED review and comment on these findings in the Final TSD.

**Section TSD 09.0:** In Section 9.0 of the TSD, the NMED states that "DOE has not demonstrated that the limited sampling performed in the VRA was adequate to determine the full vertical and horizontal nature, rate, and extent of contamination at SWMUs where release is determined to have or may have occurred." The NMED further states that the existing VRA data "are insufficient to support conclusions concerning NFA if a release has occurred." Other than a general allusion to "inappropriate" method detection limits earlier in Section 9.0, the NMED did not elaborate as to why the VRA data were insufficient to support NFA (i.e., what specific risk-based decisions could not be made using the existing data and why).

The Permittees contend that the analytical data collected during the VRA are sufficient to support NFA at the WIPP SWMUs. The Permittees' basis for NFA is summarized in two documents prepared in response to the earlier draft of the TSD and Module VII: 1) *Supplemental Information and Documentation for Comment 127: Draft Permit Module VII.M.2, Page VII-17*, and 2) *Human Health and Ecological Risk Assessment, Waste Isolation Pilot Plant, Solid Waste Management Units (DOE/WIPP 98-2292)*. These documents were hand-delivered to the NMED by the Permittees on September 14, 1998. The compiled data and risk assessments presented in these documents demonstrate that NFA is justified at the WIPP SWMUs based on NFA Criterion 3 or NFA Criterion 4 in Table 4 of the TSD.

The Permittees assert that the data collected during the VRA sufficiently characterizes the nature, rate, and extent of contamination to allow evaluation of the risk associated with the SWMU sites. The VRA data are sufficient because:

1. The Permittees' approach for the VRA was consistent with RFI guidance and had the concurrence of EPA.

As stated by EPA in a letter dated December 19, 1995, "DOE has elected, with agreement from EPA, to commence corrective action activities". The VRA Program was developed in a manner consistent with EPA's RCRA Corrective Action Plan (CAP) (EPA, 1994), which considers a release assessment to be equivalent to a Phase I RCRA Facility Investigation (RFI). The Permittees designed the VRA program to be consistent with EPA's *Interim Final RFI Guidance* (EPA, 1989), and included the collection of "source characterization" samples and "contamination characterization" samples (also called "release verification" samples) to allow an initial assessment of nature and extent of contamination at the SWMU sites. Based on the requirements outlined in the RCRA CAP and RFI guidance,

source characterization samples were collected during the VRA from source material to assess the nature of SWMU-related constituents. Release verification samples were collected from locations vertically and horizontally downgradient of the SWMUs to assess the extent of any releases from the SWMUs that could impact specific receptors.

The *Work Plan for the VRA/CA Program (DOE/WIPP DRAFT-2115)* clearly stated that the objective of VRA sampling activities was to collect sufficient sampling data to support NFA determinations at the SWMUs, or alternatively, assess whether additional data collection was warranted under the RFI process. The *Work Plan* stated that recommendations for NFA would be based on risk-based decision criteria (i.e., risk screening levels proposed in the Subpart S rule). In a letter dated December 19, 1995, EPA Region 6 concurred with the objectives and technical approach outlined in the *Work Plan* (including the number of samples collected, sample locations, target analytes, etc.) EPA actually recommended a reduction in the number of background investigative samples proposed for collection. Although the NMED did not possess regulatory authority over the RCRA corrective action programs during the planning and performance of the VRA (1994-1996), the Permittees made every effort to inform and obtain feedback from the NMED regarding the VRA program. The NMED provided no comment on the sampling approach or results of the VRA until January 16, 1998, when additional information concerning the VRA analytical results was requested in a letter from the NMED to the Permittees.

2. All media of concern at the SWMU sites have been sampled.

A conceptual site model (CSM) for the SWMU sites was provided for the SWMUs sampled during the VRA in the aforementioned document *DOE/WIPP 98-2292*. This CSM is reproduced as Figure 1 and shows the potential pathways for human and ecological exposure to SWMU constituents. The CSM indicates that the only medium of concern at the SWMUs is soil. Section 7.0 of the November 13, 1998 TSD concurs with the CSM by stating that media other than soil (i.e., air, surface water, and groundwater) are not of concern at the SWMUs due to the lack of credible migration and exposure pathways involving these media. The CSM essentially demonstrates that only soil need be sampled to assess the nature and extent of contamination associated with the SWMUs. Figure 1 indicates that two specific exposure pathways are of interest for the soil medium (i.e., two pathways ending with "Yes"): direct contact/ingestion and translocation/ingestion. Soil sampling that allowed assessment of these two pathways has already been performed by the Permittees during the VRA (see Item #5 below).

3. The nature of contamination within the potential sources has been adequately characterized.

For the purposes of the VRA, the nature of contamination was interpreted as the identity and concentrations of the constituents above background and risk-based levels present at the SWMUs. SWMU constituents were assessed during the VRA program through the collection of source characterization soil samples. At the mudpit SWMUs, the Permittees collected source samples from a minimum of two soil borings drilled within each mudpit. In total, 30 source characterization samples were collected for 13 mudpits located in 10 mudpit SWMUs (three of the mudpit SWMUs sampled during the VRA contained two mudpits, while the remainder contained only one mudpit). The 13 mudpits sampled covered a total surface area of 2.4 acres, so that overall, approximately 12 source samples were collected during the VRA per acre of mudpit. In general, the source characterization data found that the different mudpits contained the same metal constituents at similar concentrations. This is reasonable because the mudpits were established by drilling activities performed by a small group of local companies using established, similar drilling practices (see the *Final VRA/CA Report [DOE/WIPP 96-2209]* and *Supplemental Information and Documentation for Comment 127: Draft Permit Module VII.M.2, Page VII-17*). Furthermore, the materials originally introduced into the mudpits were in slurry form and were fairly homogeneous. Thus, based on the high overall sampling frequency and the similarity in the reported results, the source material at the mudpits has been adequately characterized. Further source characterization data are sufficient at the Portacamp (SWMU 004a) due to the collection of four samples at biased locations within this unit (i.e., locations where releases are most likely to have occurred).

4. The extent of the SWMUs and their associated constituents have been adequately assessed.

Extent of contamination can generally be defined as the limits of the horizontal and vertical distribution of SWMU-related constituents (above background and risk-based levels) in all media of interest. Assessment of extent also involves the establishment of boundaries for SWMUs and source areas. SWMU dimensions and boundaries were established during the RFA and were refined during VRA field activities (as documented in the *Final VRA/CA Report [DOE/WIPP 96-2209]* and the Permittees' risk assessment *[DOE/WIPP 98-2292]*). No RCRA requirements or guidance exists regarding the accuracy with which SWMU areas must be determined. The only potentially applicable guidance known to the Permittees are for remedial activities at CERCLA sites. Specifically, CERCLA guidance allows an

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uncertainty of +50% to —30% in site characterization data used to design and cost remedial activities (see *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, EPA/540/G-89/004, October 1988). The Permittees are confident that the areal extent of the WIPP SWMUs is known within this level of uncertainty, and that additional investigation activities to define SWMU boundaries are not necessary. For example, for SWMU 004a, the area was estimated to be 90,000 square feet (300' X 300'). To meet the CERCLA allowable level of uncertainty, an estimate of between 251' and 367' would be acceptable for each side. The Permittees are confident that estimates of the SWMU dimensions from the VRA are easily within this level of uncertainty.

The Permittees also believe that the extent of hazardous constituents surrounding the SWMU sites was adequately characterized during the VRA to assess the risk associated with these SWMUs. Release verification soil samples were collected to assess horizontal extent as well as vertical extent of contamination. Specifically, one soil boring was installed downgradient of each mudpit SWMU to assess horizontal extent. In addition, one soil sample was collected from below the SWMU horizon at each of the source characterization and downgradient sample locations to assess the vertical extent of release, if any. In total, therefore, 10 horizontal extent and 40 vertical extent samples were collected at the WIPP SWMUs during the VRA. Concentrations of hazardous constituents in the horizontal and vertical extent data were generally similar to those in the source characterization samples and were near established background ranges. Because the source and extent data were similar, the Permittees treated them as one population for comparison to background concentrations and risk-based screening levels in the *Final VRA/CA Report* (i.e., the maximum SWMU concentration was used for each constituent, whether reported in a source or extent sample).

The equivalence of the source and extent sampling results, and their similarity to background concentrations, support the conclusion that there were no releases of concern at the WIPP SWMUs. Based on these findings of the VRA program, additional extent sampling is unnecessary. With respect to vertical extent sampling, additional extent characterization is relevant only for studying releases to groundwater, and the NMED has explicitly excluded groundwater pathways from further evaluation at this time (see Section 7.0 of the TSD).

5. The data collected during the VRA are sufficient to allow risk-based decision making.

The data collected during the VRA have been used by both the Permittees

and the NMED for risk-based decisions concerning the WIPP SWMUs. Risk-based decisions for the SWMUs are summarized on the flow diagram in Figure 2 and are based on *Guidance for the Data Quality Objectives Process* established by EPA (EPA QA/G-4, 1994). As shown, the VRA data were initially assessed relative to background concentrations and human health screening criteria (see the *Final VRA/CA Report*). Background concentrations were established based on 14 "upgradient" samples collected near the SWMUs during the VRA, and human health screening criteria were developed using the proposed Subpart S rule (as directed by EPA Region 6). The comparisons of VRA data to background and Subpart S levels indicated no releases of concern and supported NFA at the SWMUs. The assessments of VRA data relative to background and Subpart S levels were performed as originally specified in the *Work Plan for VRA/CA Program*, which was approved by EPA Region 6. Thus, assessment of no release based on these criteria should have been sufficient for granting of NFA at the WIPP SWMUs (see Figure 2).

The NMED applied the VRA data in performing screening-level human health and ecological risk assessments in support of the draft Permit and TSD published in May 1998. In response, the Permittees applied the VRA data in site-specific human health and ecological risk assessments (*DOE/WIPP 98-2292*). The Permittees' risk assessment demonstrated no risk to human health from the SWMUs (based on an industrial worker exposure scenario appropriate for the WIPP site). The Permittees' ecological risk assessment indicated slightly elevated risks relative to background for one ecological receptor that has been observed at the WIPP site (the deer mouse). However, valued ecological resources must be identified at the WIPP site before further ecological risk assessment is warranted. To date, no such resources have been identified.

In summary, the Permittees stress that the VRA program data have already been applied in multiple risk-based decision-making processes concerning the WIPP SWMUs, which involved screening-level as well as quantitative assessments. When exposure scenarios appropriate to the WIPP site are used, the screening level and quantitative assessments agree in implying that the SWMUs do not pose an undue risk to human health or the environment. Thus, when applied in risk-based decision making, the VRA data support NFA determinations at the WIPP SWMUs.

6. Data quality concerns that arose with the VRA data have been resolved.

In Sections 9.0-9.2 of the TSD, the NMED alludes to elevated reporting limits obtained during the VRA for thallium and polychlorinated biphenyls (PCBs)

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that allegedly compromise the utility of the data in assessing nature and extent of contamination at the WIPP SWMUs. The Permittees compiled and validated the data for these constituents in response to the May 15, 1998 draft of the TSD. The Permittees' data validation activities and findings are detailed in *DOE/WIPP 98-2292*. To correct a laboratory reporting error discovered during the validation, the reporting limits for PCBs were reduced by 3 orders of magnitude from 100 ppm to 100 ppb, thereby eliminating PCBs as potential constituents of concern (no detections were reported). For thallium, the original reporting limits of 20 ppm could not be reduced. However, the Permittees discovered that the two detections reported for thallium in the VRA samples were affected by laboratory contamination and performance problems. Therefore, the Permittees re-reported these two data points as nondetections.

Based on the data validation findings, thallium was not detected in any of the VRA soil samples at a minimum reporting limit of 20 ppm. The Permittees have revised the WIPP site background concentrations calculated from the VRA data to reflect the revised background results (see Tables 1 and 2 attached to this comment). The background concentrations were originally provided to the NMED as Attachment L of the *Supplemental Information Requested by the NMED for SWMUs (DOE/WIPP 97-2220a)*.

Because thallium was not detected in the VRA samples, it was not included in the Permittees' site-specific risk assessments (per EPA's *Risk Assessment Guidance for Superfund, EPA/540/1-89/002, 1989*). Additionally, the Permittees note that confirmation analyses were performed during the VRA program for approximately five percent of the investigative soil samples. The confirmation analytical method for thallium had a reporting limit of 1 ppm. No detections of thallium were reported in the confirmation samples. Based on the lack of reported detections in the analytical and confirmation data, according to EPA guidance, thallium is not a constituent of concern for the WIPP SWMUs.

In summary, approximately 110 samples were collected for total constituent analyses of organic and inorganic parameters during the VRA. Additional QC samples (field duplicates, blanks) were collected at minimum frequencies consistent with EPA guidance, and the Permittees have performed other QA activities (i.e., cursory and detailed analytical data validation) to document data quality. The VRA program was performed in accordance with applicable RFI and DQO guidance, and the *Work Plan for the VRA/CA Program* received concurrence from the EPA Region VI. The technical approach of the VRA was consistent with the phased approach recommended by EPA for RFIs (where decisions regarding additional characterization are made after each phase). It was also consistent with the DQO

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process in that data were collected to allow specific program decisions at an acceptable level of confidence. The NMED's requirement for "full" characterization without regard to the specific program decisions required or the associated level of confidence is in conflict with both the RFI and DQO processes.

In Section 9.0 of the November 13, 1998 TSD, the NMED stated that their screening-level risk assessment had been withdrawn because the "full" characterization of nature, rate, and extent of contamination had not been established by the Permittees at the WIPP SWMUs. However, the NMED did not identify the specific decision-based program deficiencies in the VRA data that led to withdrawal of their risk assessment. It is also unclear what the NMED means by "full" characterization of the nature and extent of contamination. A "full" characterization of nature and extent is not possible or required to support risk-based decision making. See "*Corrective Action for Releases From Solid Waste Management Units at Hazardous Waste Management Facilities*; Proposed Rule, 61 *Fed. Reg.* 19431, 19444 (1996) (EPA emphasizes that "information adequate to support cleanup decisions can be obtained through delineation to risk-based concentrations or other investigation endpoints." It is not necessary or feasible to determine true maximum concentrations of constituents within SWMUs through exhaustive additional sampling. Risk-based decisions concerning the status and disposition of SWMU sites are necessarily based on statistical maxima or mean concentrations from technically sound but limited sampling programs. Such an approach was applied by the Permittees during the VRA. Given the volume of data and documentation that have been provided regarding the WIPP SWMUs, the Permittees request NFA for these SWMUs. In the event that NFA is not granted, the Permittees request clarification from the NMED as to what specific program deficiencies still exist for these units that preclude NFA determinations (i.e., what specific decisions cannot be made concerning the risk posed by the SWMUs).

**Section TSD 10.7.2:** In this section of the TSD, the NMED argues for the inclusion of SWMU 007b in Module VII. As described in *Human Health and Ecological Risk Assessment Waste Isolation Pilot Plant Solid Waste Management Units (DOE/WIPP 98-2292*, hand-carried to the NMED on September 14, 1998), the concentrations of constituents in the SWMU 007b evaporation pond do not constitute a risk to either human health or the environment. Therefore, this unit satisfies NFA Criterion 4 of the TSD. Additional information presented in the Permittees' *Supplemental Information and Documentation for Comment 127: Draft Permit Module VII.M.2, Page VII-17* (also hand-delivered to the NMED September 14, 1998) further demonstrates no evidence for the management or release of hazardous constituents at this SWMU. This site has been graded and replanted with native vegetation in accordance with guidelines developed in the *WIPP Land Management Plan (DOE/WIPP 93-004)*. Disturbance of the site for additional sampling or remedial purposes is not warranted or reasonable due to the lack of discernable risk



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associated with this SWMU. Therefore, the Permittees reiterate their request for an NFA determination at SWMU 007b and removal of this SWMU from the Permit.

**Section TSD 11.0:** The status of SWMUs 001o, 001p, and 001q, as addressed in Section 11.0 of the revised TSD, is unchanged since the previous draft of the Permit and the TSD. In response, the Permittees are providing two arguments to support deletion of these SWMUs from the permit.

- Regulatory Exclusion: With respect to "Badger Unit" (SWMU 001o) and "Cotton Baby" (SWMU 001p), the NMED may be precluded from requiring corrective action based on an exclusion applicable to certain petroleum exploration activities. Specifically, pursuant to 40 CFR Section 261.4(b)(5), which has been incorporated by reference into New Mexico law (20 NMAC 4.1.500), "Drilling fluids, produced water, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy" are exempt from the definition of "hazardous waste", although such materials do constitute "solid waste" 20 NMAC 4.1.50 and 40 CFR 261.4(b)(5). Therefore, waste material located in these two WIPP SWMUs is exempt from the definition of "hazardous waste," because the SWMUs are associated with such petroleum exploration activities (i.e., waste located in Badger Unit and Cotton Baby SWMUs).

Because the corrective action requirements apply to "all releases of hazardous waste or constituents" from SWMUs, these petroleum exploration-related SWMUs are exempt from SWMU corrective action requirements unless the corrective action requirements concern "hazardous constituents" (see 20 NMAC 4.1.500 and 40 CFR 261.101(a)).

- Proposed Remedies: In Section 11.3, the NMED states that:

*"in order to obtain NFA for these SWMUs, DOE must provide additional conclusive information to demonstrate that there will be no migration of hazardous wastes or constituents from each of the capped mud pits at levels that could present a hazard to human health and the environment. This demonstration could include simplified worst-case migration scenarios and modeling that take into account specific site characteristics (e.g., rainfall, stratigraphy, and depths groundwater, etc.)."*

The Permittees note that samples were collected from these SWMUs as part of the RFA. In response to the requirement quoted above, the Permittees performed a modeling study to support the proposed voluntary corrective actions at these SWMUs (i.e., capping-in-place with compacted caliche), and

provided the modeling results in the *Supplemental Information and Documentation for Comment 127: Draft Permit Module VII.M.2, Page VII-17* that was hand-delivered to the NMED on September 14, 1998. The modeling study employed the widely-used Hydrologic Evaluation of Landfill Performance (HELP) computer program developed by the U.S. Army Corps of Engineers, and it applied conservative, site-specific assumptions regarding precipitation, evapotranspiration, cap thickness, drainage through the proposed caps, and soil conditions. By predicting that infiltration of rainfall through the caps would be essentially zero inches, the simplified modeling study results demonstrated that the proposed caps were appropriate corrective actions for SWMUs 001o, 001p, and 001q. It does not appear that these modeling results were considered in the preparation of the revised draft Module VII and TSD. The Permittees request that their corrective action proposal be accepted. If not, the Permittees request that the NMED consider and comment on the modeling results in the development of the Final Permit and TSD.

The NMED also states that in evaluating prospective remedies for the mudpit SWMUs, "DOE would be required to elaborate on each of the following remedy selection factors applicable to each site: long-term reliability and effectiveness; reduction of toxicity, mobility, or volume; short-term effectiveness of a potential remedy(s); implementability; and cost." This requirement is identical to an earlier request from EPA Region 6 in a letter dated December 19, 1995, which provided formal comments on the *Work Plan for the VRA/CA Program (DOE/WIPP DRAFT-2115)*. In response to EPA's earlier request, the Permittees addressed remedy selection factors for the proposed caps in Section 14.0 of the *Final VRA/CA Report (DOE/WIPP 96-2209)*. This discussion assessed the caps to be highly appropriate remedies based on hydraulic conductivity tests on the cap materials, the extremely low infiltration rate at the WIPP site, and the lack of vertical migration and exposure pathways for mudpit constituents. The caps were also assessed to be highly implementable by the WIPP, cost-effective, safe to implement, and reliable relative to other alternatives. It does not appear that Section 14.0 of the *Final VRA/CA Report* was considered in the preparation of the revised draft Permit and TSD. Therefore, the Permittees request that their corrective action proposal be accepted. If not, the Permittees request that the NMED consider and comment on this submittal in the development of the Final Permit and TSD.

Section 11.3 of the TSD has been revised to require full characterization of the vertical and horizontal extent of contamination at SWMUs 001o, 001p, and 001q. The Permittees disagree with the need for additional characterization, and believes that existing data and information for these

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mudpits and similar sites is sufficient to implement the proposed remedies without additional investigation. Further delineation of vertical extent would only be required if groundwater was considered a viable migration pathway for SWMU constituents. As stated in Section 7.0 of the revised TSD, the NMED does not consider groundwater a viable migration pathway and removes groundwater from further investigation during any RFI that occurs at the WIPP site. (Moreover, the Permittees note that the total and TCLP data collected during the RFA and VRA indicate that any vertical migration of hazardous constituents from the mudpit SWMUs is not significant.) Further delineation of horizontal extent is also unnecessary because the dimensions of SWMUs 001o, 001p, and 001q were established during the RFA and refined during the VRA. For purposes of remedy design and associated costing at CERCLA sites, EPA has specified an allowable uncertainty of +50%/-30% (see *Guidance for Conducting Remedial Investigations/Feasibility Studies Under CERCLA, EPA/540/G-89/004, October 1988*). No analogous guidance exists for the design of remedies at RCRA sites such as the WIPP SWMUs, but the application of the CERCLA guidance would appear to be sufficient and appropriate for the three mudpits. The horizontal extent of these mudpits are already known within an accuracy of +50%/-30% and no additional investigation is necessary.

In summary, sufficient data have been collected to support the implementation of voluntary corrective actions at SWMUs 001o, 001p, and 001q, and thus that these units should be removed from Module VII of the Final Permit. If these units are not removed from the Final Permit, the Permittees request documentation in the Final TSD as to why the information provided by the Permittees over the course of the VRA Program and in response to the Draft Permit is insufficient to support the proposed cap remedies (i.e., what specific decisions regarding the appropriateness of the remedies cannot be made based on the compiled data and information). The significant amount of supporting data and information compiled by the Permittees for the proposed cap remedies needs to be considered in preparation of the Final Permit and TSD.

### **B. Proposed Revision to Draft Permit Condition**

#### **1. Module VII.M.2, Page VII-18**

Combine Tables 1, 2, 2A, and 3 into one Table identifying all SWMUs and AOCs as requiring no further action. For SWMUs 001o, 001p, and 001q, the table should specify NFA is granted pending installation of the proposed caliche caps.

Figure 1: Conceptual Site Model for  
WIPP SWMUs

Figure 2: Decision Diagram for WIPP SWMUs Based on VRA Data

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### 3.0 RESUBMITTED COMMENTS

The comments in this section are resubmittals of comments the Permittees made on the first draft of the WIPP hazardous waste facility permit. These are being resubmitted in order to emphasize the Permittees' belief that the proposed changes are important to the WIPP program and necessary to efficiently and safely manage TRU waste. In some cases, comments are being resubmitted with additional justification.

#### COMMENT 177: Module I.A, Page I-1

##### A. Draft Permit Module or Attachment Text

*The Secretary of the New Mexico Environment Department (Secretary) issues this Permit to the United States Department of Energy (DOE), the owner and co-operator of the Waste Isolation Pilot Plant (WIPP) (EPA I.D. Number NM4890139088), and the Waste Isolation Division (WID) of Westinghouse Electric Company, a division of CBS Corporation, the co-operator of WIPP. This Permit authorizes DOE and WID (the Permittees) to manage, store, and dispose contact-handled transuranic (TRU) mixed waste at WIPP, and establishes the general and specific standards for these activities, pursuant to the New Mexico Hazardous Waste Act (HWA), NMSA 1978, §§74-4-1 et. seq. (Repl. Pamp. 1993) and the New Mexico Hazardous Waste Regulations, 20 NMAC 4.1.100 et. seq.*

##### B. Discussion of the Draft Permit Condition

This is a resubmittal of Comments 9, 84, 85, and 87 regarding RH-TRU waste.

The Permittees believe that regardless of whether or not the RH waste prohibition remains in the final permit, the condition in Module I.D.11 allows facility modification to proceed after notification is given to the NMED Secretary.

##### C. Proposed Revisions to the Draft Permit

###### 1. Module I.A, Page I-1

*The Secretary of the New Mexico Environment Department (Secretary) issues this Permit to the United States Department of Energy (DOE), the owner and co-operator of the Waste Isolation Pilot Plant (WIPP) (EPA I.D. Number NM4890139088), and the Waste Isolation Division (WID) of Westinghouse Electric Company, a division of CBS Corporation, the co-operator of WIPP. This Permit authorizes DOE and WID (the Permittees) to manage, store, and dispose ~~contact-handled~~ transuranic (TRU) mixed waste at WIPP, and establishes the general and specific standards for these activities, pursuant to the New Mexico Hazardous Waste Act (HWA), NMSA 1978, §§74-4-1 et. seq. (Repl. Pamp. 1993) and the New Mexico Hazardous Waste Regulations, 20 NMAC 4.1.100 et. seq.*

**2. Module II.C.3.h, Page II-6**

~~II.C.3.h. Remote-handled transuranic waste - remote-handled (RH) TRU mixed waste (waste with a surface dose rate of 200 millirem per hour or greater) is not acceptable at WIPP.~~

**3. Module III.A.1, Page III-1**

See text markup for this Module in Permittees' Comments 10, 85, and 87 submitted on 8/14/98.

**4. Attachment B, Page B-7**

See text markup for this Attachment in Permittees' Comment 84 submitted on 8/14/98.

**5. Attachment M1-1c(1), Page M1-7**

See text markup for this Attachment in the Permittees' comment 84 submitted on 8/14/98.

**6. Attachment M1-1f(1), Page M1-16, Line 27**

See text markup for this Attachment in the Permittees' comment 84 submitted on 8/14/98.

**7. Attachment M1-1f(2), Page M1-17, Line 10**

See text markup for this Attachment in the Permittees' Comment 84 submitted on 8/14/98.

**8. Attachment M1, Table M1-2, Page M1-2**

See text markup for this Attachment in the Permittees' Comment 84 submitted on 8/14/98.

**9. Attachment M2-1, Page M2-2, Line 15**

See text markup for this Attachment in the Permittees' submitted on 8/14/98.

**COMMENT 178: Module II.C.3.i, Page II-6**

**A. Draft Permit Module or Attachment Text**

***Headspace gas sampling and analysis - any waste container which has not undergone headspace gas sampling and analysis to determine concentration of VOCs is not acceptable at WIPP.***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 10. This condition should be deleted and headspace gas sampling should only be required of a statistically selected sample of containers in each waste stream.

Headspace gas sampling is a technique developed by the DOE to characterize radioactive waste, including TRU mixed waste. It provides a method for estimating the type and amount of volatile organic compounds (VOCs) present in the waste. Headspace gas sampling is a good tool for identifying VOCs without going to the expense and hazard of sampling the waste directly.

In the past, the DOE performed headspace gas sampling on 100% of TRU waste containers because of the stringent requirements of the WIPP Test Phase. In its November 14, 1990 No-Migration Determination, the EPA stated that: "testing of every drum or individual container on a continuing basis may pose a significant burden of DOE," and that DOE should submit data to request relief from this very stringent requirement. It appears that the original requirement for 100% headspace gas sampling was imposed on DOE by the EPA because of EPA's concerns over flammable and toxic gases associated with the waste, and to provide additional waste characterization data to meet the research and development goals of the WIPP Test Phase.

Since that time, the WIPP Test Phase has been canceled (1993) and the WIPP has been exempted from the Land Disposal Restrictions of RCRA (1996). Safety issues regarding flammable and toxic gases are addressed through NRC transportation safety and worker safety requirements not related to RCRA or the HWA. Neither NRC or RCRA/ HWA requirements mandate 100% headspace gas sampling.

The Data Quality Objectives (DQOs) for headspace gas sampling can be met for both homogeneous and debris waste by without sampling 100% of containers. Homogeneous waste includes dewatered sludges, solidified materials, and soil/gravel. For solidified materials, the radioactivity and VOC contaminants are generally well mixed in the liquid prior to solidification. Any VOC "loading" will be fairly evenly distributed throughout the solidified material, allowing good

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characterization of the VOC content from a relatively small number of samples. In the case of soil/gravel, VOCs resulting from solvent spills, etc. will be fairly well characterized from knowledge of the type and quantity of the spill.

Wastes produced by thermal processes simply cannot contain VOCs, and thus the sampling requirement is without any valid purpose.

Well-characterized debris known to contain little or no VOCs based on process controls should not require any headspace gas sampling. When VOCs are known to be present, statistical sampling of the waste stream can easily verify the types and quantities of VOCs present in the waste stream.

Permittees propose to perform statistical headspace gas sampling on a waste stream basis to: (1) verify EPA hazardous waste numbers for VOCs assigned to the waste stream by Acceptable Knowledge (AK), and (2) verify that WIPP complies with the Room-Based Limits contained in Permit Condition IV.D.1; an average concentration of each VOC in Table IV.D.1 will be assigned to every container in the waste stream.

Waste streams that have been thermally treated or that AK conclusively shows if VOCs are not present will be exempted from headspace gas sampling. The number of containers sampled in each waste stream will be determined by the generator/storage site using the principles of SW-846, Chapter 9, and documented in the site's Sampling Plan.

There are specific benefits associated with a reduction in headspace sampling frequency:

1. reduced waste container handling, reduced worker exposure to hazardous materials and less chance of an accident;
2. Reduced waste characterization costs resulting from less sampling and analysis and from associated reductions in data analysis, verification, and review;
3. increased container characterization rate allowing more waste to be shipped to WIPP sooner, reducing long term risk to workers and the public from continued inadequate storage of TRU waste at the generator/storage sites.

Finally, regardless of sampling frequency for headspace gas, this condition should be deleted because the Second Draft in Attachment B specifies the frequency of headspace gas sampling. Thus, this condition is redundant.

**C. Proposed Revisions to the Draft Permit**

**1. Module II.C.3.i, Page II-6**

~~Headspace gas sampling and analysis - any waste container which has not undergone headspace gas sampling and analysis to determine concentration of VOCs is not acceptable at WIPP.~~

**2. Attachment B-1c, Page B-7, Lines 7 to 8**

~~any waste container which has not undergone headspace gas sampling and analysis to determine concentration of VOCs~~

**3. Attachment B-3a (1), Page B-10, Lines 30 to 39 and Page B-11, Lines 1 to 2**

~~Every TRU mixed waste container will be sampled and analyzed to determine the concentrations of VOCs (presented in Table B-3) in headspace gases. A statistically selected portion of containers from each waste stream will be sampled and analyzed for VOCs (presented in Table B-3) in headspace gases. Waste streams that have been thermally treated or that AK conclusively shows that VOCs are not present are exempt from headspace gas sampling. The number of containers sampled in each waste stream will be determined by the generator/storage site using the principles of SW-846, Chapter 9, and documented. Sampling protocols, equipment, and QA/QC methods for headspace-gas sampling are provided in Permit Attachment B1. In accordance with EPA convention, identification of hazardous constituents detected by gas chromatography/mass spectrometry methods that are not on the list of target analytes shall be reported. These compounds are reported as tentatively identified compounds (TICs) in the analytical batch data report and shall be added to the target analyte list if detected in a given waste stream, if they appear in the 20-NMAG 4.1.200 (incorporating 40 CFR §261) Appendix VIII, and are detected in 25% of the samples from a given waste stream. The headspace gas analysis method Quality Assurance Objectives (QAOs) are specified in Permit Attachment B3.~~

**4. Attachment B-3d, Page B-13, Lines 34 to 40 and Page B-14, Lines 1 to 11**

~~All waste containers (retrievably stored and newly generated) are sampled and analyzed for VOCs in the headspace gas. A statistically selected portion of containers from each waste stream (unless it is exempt) will be sampled and analyzed for VOCs in headspace gases. A statistically selected portion of each homogeneous solids and soil/gravel waste stream is sampled and analyzed for RCRA-regulated total VOCs, SVOCs, and metals (see Permit Attachment B2). Sampling and analysis methods used for waste characterization are discussed in Section B-3a. In the process of performing organic headspace and solid sample~~

*analyses, nontarget compounds may be identified. These compounds will be reported as TICs. TICs found in 25% of the samples and listed in 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII, will be compared with acceptable knowledge data to determine if the TIC is in a listed hazardous waste in the waste stream. If the **source or origin of the TIC** cannot be identified (e.g., as a component of waste packaging materials or as a product of radiolysis), the Permittees will add these TICs to the list of hazardous constituents for the waste stream (and assign additional EPA listed hazardous waste codes, if appropriate). A permit modification will be submitted to NMED for their approval to add these constituents (and waste codes), if necessary. For toxicity characteristic compounds and non-toxic F003 constituents, the Permittees may consider waste concentration when determining whether to change a hazardous waste code. Refer to Permit Attachment B3 for additional information on TIC identification.*

**5. Attachment B-3d (1), Page B-15, Lines 7 to 12**

~~*All containers of newly generated waste will undergo headspace gas analysis for VOC concentrations prior to shipment. If the Permittees believe the frequency can be reduced in the future based on trends in analytical results, they may provide technical arguments for such a reduction and request a permit modification from NMED. The headspace gas sampling method is provided in Permit Attachment B1. Headspace gas data will be used to confirm acceptable knowledge waste characterization*~~

**6. Attachment B-3d (2), Page B-17, Lines 35 to 38**

~~*All retrievably stored containers will undergo headspace gas analysis for VOC concentrations. The headspace gas sampling method is provided in Permit Attachment B1. **A statistically selected portion of containers from each retrievably stored waste stream (unless it is exempt) will be sampled and analyzed for VOCs in headspace gases.** All headspace gas data will be used to confirm acceptable knowledge waste characterization, as specified in Permit Attachment B4.*~~

**7. Attachment B, Figure B-2, Page B-59**

Revise block in the middle of diagram to delete bullet that says “100% of containers”. [No markup submitted]

**8. Attachment B, Figure B-3, Page B-60**

Revise block in the middle of diagram to delete bullet that says “100% of containers”. [No markup provided]

**9. Attachment B4-3d, Page B4-13, Lines 5 to 7**

~~Headspace-gas sampling and analysis shall be conducted on all TRU mixed waste to be sent to the WIPP facility. Headspace-gas data will be used to confirm the presence or absence of volatile organic compounds (VOCs) identified using acceptable knowledge.~~

**10. Attachment B6, Table B6-4**

**Page B6-85** Replace the first checklist item on this page with: “Are procedures in place to statistically select containers from each waste stream (unless it is exempt) for headspace gas sampling and analysis? (Section B-3a - 3b)”

**Page B6-85** Replace the word “all” with the word “sampled” in the second checklist item, first sentence.

COMMENT 179: Module II.N., Page II-14

A. Draft Permit Module or Attachment Text

**II.N. COST ESTIMATES FOR FACILITY CLOSURE AND POST-CLOSURE**

**II.N.1. Cost Estimates**

***The Permittees-WID shall implement financial assurance instruments in the amount of the most recent closure and post-closure cost estimates, prepared in accordance with 20 NMAC 4.1.500 (incorporating 40 CFR §§264.142 and 264.144), as specified in Permit Attachment K.***

**II.N.2 Adjustment of Cost Estimates**

***The Permittees-WID shall adjust the closure and post-closure cost estimates for inflation within sixty (60) calendar days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 20 NMAC 4.1.500 (incorporating 40 CFR §§264.143 and 264.145) and Permit Condition II.O, as required by 20 NMAC 4.1.500 (incorporating 40 CFR §§264.142(b) and 264.144(b)).***

**II.N.3. Revision of Cost Estimates**

***The Permittees-WID shall revise the closure and post-closure cost estimates no later than thirty (30) calendar days after the Secretary approves a request to modify the Closure or Post-Closure Plans, if the change increases the cost of closure or post-closure, as required by 20 NMAC 4.1.500 (incorporating 40 CFR §§264.142(c) and 264.144(c)).***

**II.N.4. Recordkeeping**

***The Permittees-WID shall maintain the current closure and post-closure cost estimates in the operating record, as required by 20 NMAC 4.1.500 (incorporating 40 CFR §§264.142(d) and 264.144(d)).***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 14. Although the NMED addressed the Permittees' prior comment and deleted DOE from this condition WID remains obligated to provide liability coverage and financial assurance. This condition should be deleted from the Second Draft.



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The Second Draft requires WID to provide liability coverage and financial assurance for closure and post-closure costs. NMED has explained in the Fact Sheet that this is a state law requirement. However, 40 C.F.R. § 264.140(c) exempts the federal government from closure and post-closure cost estimates and liability requirement requirements as follows: “states and Federal government are exempt from the requirements of this subpart.” This exemption has been interpreted by EPA to apply to the federal-owned facility, thus exempting the government and the government’s operating contractor, because there is sufficient assurance of proper closure. See Fed. Reg. 33198-33199 (May 19, 1980). Under the HWA, New Mexico has adopted verbatim the federal regulation contained at 40 C.F.R. § 264.140(c). See 20 NMAC 4.1.500 § 264.140(c). Therefore, WID is also exempted from the liability and financial assurance.

The NMED’s requirement that WID comply with financial assurance requirements is an attempt to impose more stringent regulations under the HWA than the federal regulations under RCRA. The HWA specifically prohibits the adoption of more stringent regulations for the management of hazardous waste without proper notice and a hearing. See NMSA 1978 § 74-4-4.D. Since the state has not adopted more stringent financial assurance or liability regulations, the Second Draft exceeds New Mexico’s authority. Accordingly, these requirements should be deleted from the permit.

Not only is the condition beyond the scope of New Mexico’s authority under HWA, the imposition of financial assurance requirement on a contractor at a major DOE facility is unprecedented. No other major DOE facility has been obligated to comply with regulations which explicitly exempt the federal government.

Finally, if WID were required to provide financial assurance in accordance with one of the mechanisms set forth in 20 NMAC 4.1.500 §§ 264.143 and 264.145, the entire cost of compliance would be passed on to the DOE pursuant to the terms of the operating contract between DOE and WID. Therefore, requiring compliance by WID is no different than requiring the DOE to comply with a regulation that, on its face, does not apply to the federal government.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Module II.N., Page II-14**

See text markup for this Attachment in the Permittees’ Comment 14 submitted on 8/14/98.

#### **2. Module II.O, Page II-15**

See text markup for this Attachment in the Permittees’ Comment 14 submitted on

8/14/98.

**3. Module II.P, Page II-16**

See text markup for this Attachment in the Permittees' Comment 14 submitted on 8/14/98.

**4. Module II.Q, Page II-16**

See text markup for this Attachment in the Permittees' Comment 14 submitted on 8/14/98.

**5. Module VI.D.4, Page VI-4**

*No later than sixty (60) calendar days after completion of the post-closure care period for each Underground HWDU, the Permittees shall submit to the Secretary, by registered mail, a certification that the post-closure care for the Underground HWDU was performed in accordance with the specifications in the approved Post-Closure Plan, as required by 20 NMAC 4.1.500 (incorporating 40 CFR §264.120). The Permittees and an independent New Mexico registered professional engineer shall sign the certification. The Permittees shall provide to the Secretary upon request, ~~until the Secretary releases WID from the financial assurance requirements for post-closure care,~~ the documentation supporting the professional engineer's certification, as required by 20 NMAC 4.1.500 (incorporating 40 CFR §264.145(i) and §264.120).*

**6. Attachment K**

Delete Attachment K in its entirety.

**COMMENT 180: Module IV.E.3.c, Page IV-5**

**A. Draft Permit Module or Attachment Text**

***Ventilation - the Permittees shall maintain a minimum mine ventilation exhaust rate of ~~425,000~~ 260,000 standard ft<sup>3</sup>/min (or 60,000 standard ft<sup>3</sup>/min in filtration mode) and a minimum active room ventilation rate of 35,000 standard ft<sup>3</sup>/min when workers are present in the room, as specified in Permit Attachment M2, Section M2-2a(3), "Subsurface Structures (Underground Ventilation System Description)" and as required by 20 NMAC 4.1.500 (incorporating 40 CFR §264.601(c)).***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 99. Although the NMED changed the ventilation rate in the Second Draft, further clarification is required for scheduled outages and ventilation modes described in this condition and in Attachment M2. The end of paragraph should include: "except during ventilation reductions or outages to support plant maintenance." Alternatively, the condition can simply refer to the ventilation discussion in Attachment M2 as follows "The Permittees shall maintain the mine ventilation exhaust rate and active room ventilation rate as specified in permit Attachment M2." This exception to the usual flow rates must be included to allow maintenance to occur. On average, 10 outages or reductions (going to 1 or 2 filtration fans) are performed each year to support preventive and corrective maintenance. These have little impact on the average annual flow rate, which is the quantity of air used in the calculation of airborne releases, but should be allowed under the permit.

**C. Proposed Revisions to the Draft Permit**

**1. Module IV.E.3.c, Page IV-5**

***Ventilation - the Permittees shall maintain a minimum mine ventilation exhaust rate of 260,000 standard ft<sup>3</sup>/min (or 60,000 standard ft<sup>3</sup>/min in filtration mode) and a minimum active room ventilation rate of 35,000 standard ft<sup>3</sup>/min when workers are present in the room, as specified in Permit Attachment M2, Section M2-2a(3), "Subsurface Structures (Underground Ventilation System Description)" and as required by 20 NMAC 4.1.500 (incorporating 40 CFR §264.601(c)).***

**2. Attachment M2-2A(3), Page M2-10, Lines 10 to 19**

***Underground Ventilation Modes of Operation***

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The underground ventilation system is designed to perform under two *modestypes* of operation: normal (the HEPA exhaust filtration system is bypassed), and filtered (the exhaust is filtered through the HEPA filtration system, if radioactive contaminants are detected or suspected).

*Overall, there are seven possible modes of exhaust fan operation:*

- *2 main fans in operation*
- *1 main fan in operation*
- *1 filtration fan in filtered operation*
- *Reversal*
- *1 filtration fan in unfiltered operation*
- *2 filtration fans in unfiltered operation*
- *1 main and 1 filtration fan (unfiltered) in operation*

*Under some circumstances (such as, power outages and maintenance activities etc.), all mine ventilation may be discontinued for short periods of time.*

*In the normal mode, the two main surface exhaust fans, located near the Exhaust Shaft, will provide continuous ventilation of the underground areas. All underground flows join at the bottom of the Exhaust Shaft before discharge to the atmosphere.*

*Outside air will be supplied to the mining areas and the waste disposal areas through the Air Intake Shaft, the Salt Handling Shaft, and access entries. A small quantity of outside air will flow down the Waste Shaft to ventilate the Waste Shaft station. The ventilation system is designed to operate with the Air Intake Shaft as the primary source of fresh air. Under these circumstances, sufficient air will be available to simultaneously conduct all underground operations (e.g., waste handling, mining, experimentation, and support). *Ventilation may be supplied by operating one main exhaust fan, or one or two filtration exhaust fans, or a combination of the three.**

*If the nominal flow of 425,000 cfm (12,028 m<sup>3</sup>/min) is not available (i.e., only one of the main ventilation fans is available) underground operations may proceed, but the number of activities that can be performed in parallel may be limited depending on the quantity of air available. Ventilation may be supplied by operating one or two of the filtration exhaust fans. To accomplish this, the isolation dampers will be opened, which will permit air to flow from the main exhaust duct to the filter outlet plenum. The filtration fans may also be operated to bypass the HEPA plenum. The isolation dampers of the filtration exhaust fan(s) to be employed will be opened, and the selected fan(s) will be switched on. In this mode, underground operations will be limited, because filtration exhaust fans cannot provide sufficient airflow to support the use of diesel equipment.*

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*In the filtration mode, the exhaust air will pass through two identical filter assemblies, with only one of the three Exhaust Filter Building filtration fans operating (all other fans are stopped). This system provides a means for removing the airborne particulates that may contain radioactive and hazardous waste contaminants in the reduced exhaust flow before they are discharged through the exhaust stack to the atmosphere. The filtration mode is activated manually or automatically if the radiation monitoring system detects abnormally high concentrations of airborne radioactive particulates (an alarm is received from the continuous air monitor in the exhaust drift of the active waste panel) or a waste handling incident with the potential for a waste container breach is observed. The filtration mode is not initiated by the release of gases such as VOCs.*

*A set of three booster fans will allow selective reversal of airflow in the mining area, the Air Intake Shaft and its associated station, and the Salt Handling Shaft and its associated station. In these modes, airflow can be reversed by opening and closing certain ventilation doors and air regulators and by operating the underground booster fans (in either the forward or the reverse direction). These fans will normally be turned off and will be isolated, with air bypassing the fans and flowing through the air lock. The surface fans will be stopped before attempting any underground air reversals. These modes of ventilation will only be implemented under manual control for off-normal conditions (such as a fire).*

### Planned upgrade

*Underground Ventilation Normal Mode Redundancy: The underground ventilation system ~~has been~~will be provided redundancy in normal ventilation mode by the addition of a third main fan. Ductwork leading to that new fan ~~will tie~~ into the existing main exhaust duct. **Documentation for this addition of the third fan and associated ductwork** ~~The connecting saddle, wye, and elbow with an integral damper, is scheduled to be~~ **completed and submitted to the NMED** ~~installed and blanked-off, and the hole in the main duct is to be cut before waste receipt of TRU mixed waste. The later addition of the third fan and associated ductwork will then not interfere with the facility operation.~~*

**COMMENT 181: Module V.B, Page V-1**

**A. Draft Permit Module or Attachment Text**

*The point of compliance is the vertical surface located at the hydraulically downgradient limit of the Underground HWDUs that extends to the Culebra Member of the Rustler Formation [20 NMAC 4.1.500 (incorporating 40 CFR §§264.95, 264.601, and 264.602)]. The Permittees shall conduct the DMP at DMWs specified in Table V.C.1, and as required by 20 NMAC 4.1.500 (incorporating 40 CFR §§264.98 and 264.601).*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 108 without any further discussion.

**C. Proposed Revisions to the Draft Permit**

**1. Module V.B, Page V-1**

See text markup for this Attachment in the Permittees' Comment 108 submitted on 8/14/98.

**COMMENT 182: Module VII.F.1, Page VII-10**

**A. Draft Permit Module or Attachment Text**

*The parties shall use their best efforts to informally and in good faith resolve all disputes or differences of opinion arising out of this Module. The Permittees shall not invoke dispute resolution for purposes of delay. If, however, disputes arise concerning the corrective action which the parties are unable to resolve informally, the following procedures shall apply. If Permittees' dispute concerns its inability to meet a specified deadline, then the Permittees are obligated to advise shall inform the Secretary of the issue in writing at least thirty (30) calendar days in advance of the deadline. The Permittees shall submit a written statement that sets forth the nature of the dispute, the work affected by the dispute including specific compliance dates, and all factual data, analysis, opinion, or documentation supporting the Permittees' position.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 121.

If this comment is not accepted, then the use of a neutral third party mediator should be considered.

**C. Proposed Revisions to the Draft Permit**

**1. Module VII.F.1, Page VII-10**

See text markup for this Attachment in the Permittees' Comment 121 submitted on 8/14/98.

**COMMENT 183: Module VII.N.2, Page VII-20**

**A. Draft Permit Module or Attachment Text**

*Deviations from the approved RFI Work Plan which are necessary during implementation of the investigations must be approved by the Secretary and fully documented and described in the progress reports and in the RFI Report.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 129 without any further discussion.

**C. Proposed Revisions to the Draft Permit**

**1. Module VII.N.2, Page VII-20**

See text markup for this Attachment in the Permittees' Comment 129 submitted on 8/14/98.



**COMMENT 184: Module VII, Table 2A, Page VII-51**

**A. Draft Permit Module or Attachment Text**

**TABLE 2A  
SWMUS NOT REQUIRING AN RFI**

<b>SWMU NUMBER</b>	<b>NAME</b>
<b>TRU Mixed Waste Management Unit (5 SWMUs)</b>	
SWMU 013a*	Waste Handling Building Unit
SWMU 013b*	Parking Area Unit
SWMU 013c*	Underground HWDU - Panel 1
SWMU 013d*	Underground HWDU - Panel 2
SWMU 013e*	Underground HWDU - Panel 3

\*These units will become SWMUs upon initial receipt and subsequent management of solid waste

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 145.

Units that have not yet received waste do not meet the definition of SWMUs and should be deleted from the permit. When they begin managing wastes, they will meet the definition of a SWMU and should then be reported by the Permittees to NMED. However, no further action regarding these SWMUs would be necessary unless a release occurs that may impact human health and/or the environment (i.e., these SWMUs would meet NFA Criterion 3 of the TSD unless a release occurs).

**C. Proposed Revisions to the Draft Permit**

**A. Module VII, Table 2A, Page VII-51**

**TABLE 2A  
~~SWMUS NOT REQUIRING AN RFI~~**

<b>SWMU NUMBER</b>	<b>NAME</b>
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TRU Mixed Waste Management Unit (5 SWMUs)	
SWMU 013a*	Waste Handling Building Unit
SWMU 013b*	Parking Area Unit
SWMU 013c*	Underground HWDU - Panel 1
SWMU 013d*	Underground HWDU - Panel 2
SWMU 013e*	Underground HWDU - Panel 3

**COMMENT 185: Attachment B, Introduction, GENERAL**

**A. Discussion**

This is a resubmittal of Comment 16.

The draft permit has changed some of the nomenclature used to describe the various reports and data packages generated during the waste characterization process. The Permittees find these changes to be confusing and offer the following proposed revisions for clarification and consistency.

**B. Proposed Revisions to the Draft Permit**

**1. Attachment B, Introduction and Attachment Highlights, Page B-5, Lines 9 to 19**

*Once the required waste characterization is complete, the generator/storage site will complete a Waste Stream Profile Form to document the results of their characterization activities (see Section B-1d). ~~The data summary reports, waste stream characterization summary report(s), and Waste Stream Profile Forms~~ and waste characterization summary packages (i.e., testing, sampling, and analytical data summary reports and acceptable knowledge summary report) resulting from waste characterization activities shall be transmitted to the Permittees, reviewed for completeness, and screened for acceptance prior to loading any TRU mixed waste into the Transuranic Package Transporter (**TRUPACT-II**) at the generator facility, as described in Section B-4. Only TRU mixed waste ~~and TRU waste~~ that has been characterized in accordance with this WAP and that meets the Treatment, Storage, and Disposal Facility Waste Acceptance Criteria (**TSDF-WAC**) specified in this Permit; will be accepted at the WIPP facility for disposal in a permitted Underground Hazardous Waste Disposal Unit (**HWDU**).*

**2. Attachment B, Section B-1d, Page B-8, Lines 12 to 26**

- *The generator/storage site's name*
- *Original generator of waste stream*
- *A description of the waste stream*
- *The date of TSDF-WAC certification by the Permittees and the certification document title and date*

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- *The Waste Stream WIPP Identification Number*
- *The designated Summary Category Group*
- *Waste Stream Characterization Summary Package, including applicable testing, sampling, and analytical data summary reports and acceptable knowledge summary report supporting the characterization*~~*A listing of acceptable knowledge documentation used to identify the waste stream*~~
- *The waste characterization procedures used and the reference and date of the procedure*
- ~~*The data supporting the characterization*~~
- *The EPA hazardous waste codes*
- *Waste Stream Profile Form Certification statement signed by the generator/storage site waste certification official applicable testing, sampling, and analytical data summary reports and acceptable knowledge summary report supporting the characterization*

### **3. Attachment B, Section B-4a(5), Page B-22, Lines 30 to 37**

*Batch d* ~~Data~~ reports will document the analytical results from the required characterization analyses, contain the characterization data, and include documentation of required QA/QC activities associated with the sampling and analyses. Data validation and verification at both the data-generation level and the generator/storage-site project level will be performed before the required data are transmitted to the Permittees. Permit Attachment B3 discusses the data validation process in more detail. NMED may request, through the Permittees, copies of the raw data validated by the generator/storage sites to check the Permittees' audit of the validation process.

### **4. Attachment B, Section B-4b(1), Page B-26, Lines 12 to 25**

*The first phase of the waste screening and verification process will occur before TRU mixed waste is shipped to the WIPP facility. Before the Permittees begins the process of accepting TRU mixed waste from a generator/storage site, an initial audit of that generator/storage site will be conducted as part of the Permittees' Audit and Surveillance Program (Permit Attachment B6). The RCRA portion of the generator/storage site audit program will provide on-site verification of*

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characterization procedures; data report preparation; and recordkeeping to ensure that all applicable provisions of the WAP requirements are met. Another portion of the Phase I verification is the waste stream characterization summary ~~report~~ package completeness/accuracy review and acceptance by the Permittees as part of the Waste Stream Profile Form approval process. At the WIPP facility, this screening includes verification that all of the required elements of a waste stream characterization summary package are present (Permit Attachment B3) and that the waste characterization data meet acceptance criteria required for compliance with the WAP.

### **5. Attachment B3-10, Page B3-21, Lines 11 to 39 and Page B3-22, Lines 1 to 10**

- *The Permittees shall require the sites to generate the following reports for data validation, verification, and quality assurance activities:*
- *A Testing Batch Data Report or equivalent includes all data pertaining to radiography and visual examination for up to 20 waste containers without regard to waste matrix. It includes data collection and results, the videotapes of the actual examination, and the appropriate data form.*
- *A Sampling Batch Data Report or equivalent includes all field data pertaining to a group of no more than 20 samples that were collected for chemical analysis. Sampling Batch Data Reports may include chain of custody documentation and any measurements taken in the field such as temperature, pH, conductivity, as well as field notes, logs, and other field documentation.*
- *An Analytical Batch Data Report or equivalent includes analytical and on-line data from the sampling and analysis of TRU-mixed waste for an analytical batch of up to 20 samples. Totals/TCLP analyses results and headspace gas sampling and analyses results are in the Analytical Batch Data Reports, which may also include summarized sample results, summarized QA sample results and recoveries, raw data, dates and times of analysis of all samples, and a case narrative describing any problems encountered or deviations from the approved analytical methods that occurred during the preparation and analysis of all samples.*
- *Raw data ~~may~~ includes testing, sampling, and analytical data that supports batch data report results. Testing raw data may include instrument readouts, calculation records, calibration reports, and instrument QC results. Sampling and analytical raw data may include all analytical bench sheet and instrumentation readouts for all calibration standard results, sample data, QC samples, sample preparation conditions and logs, sample run logs, and all re-extraction, re-analysis, or dilution information pertaining to the individual samples. Sampling and analytical raw data may also include any qualitative or semi-quantitative data collected for a sample and*

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that has been recorded on a bench sheet or in a log book, *field logs and notes from sampling operations, and chain-of-custody forms.*

- *Data Summary Reports or equivalent include **summarized** all of the final reported results for analytical and testing data and all associated field and laboratory quality control sample results for a container. Data summary reports may also include a narrative summarizing the field sampling conditions, any information needed to correctly interpret the reported data, and notes regarding any deviations from standard analytical methods that were encountered as a result of sample matrix or field and/or lab QC problems. **Data summary reports also include** a data validation summary ~~may also be included~~ so that the qualification and usability of the data can be ascertained. A complete list of the elements required in the Data Summary Reports is in Section B3-10.*
- *Waste Stream Characterization Summary Packages or equivalent include a compilation of data summary reports for ~~all~~ sampling, testing, **and** analytical data; ~~and acceptable knowledge documentation available for waste containers and~~ **acceptable knowledge report** ~~and/or waste generating processes~~ for a waste stream. The contents of the waste stream characterization summary package are listed in Section B3-12.*
- ***Acceptable Knowledge Summary Reports or equivalent include a summary of applicable waste management program information (e.g., facility mission, areas of operation) and waste stream-specific information (e.g., waste generating sources, process/material inputs, waste stream flow diagrams) for a waste stream.***

### **6. Attachment B3, Section B3-10, Page B3-29, Line 7**

- *~~Analytical Batch Data Report case narratives~~*

### **7. Attachment B3, Section B3-12, Page B3-31, Lines 25 to 32**

*Data shall be transmitted by hard copy or electronically (provided a hard copy is available on demand) from the data generation level to the project level. Transmitted data shall include all testing, sampling, and analytical batch data reports, data summary reports, and data review checklists. The report forms and checklists used must contain all of the information required by the testing, sampling, and analytical techniques described in Permit Attachments B1 through B6 , as well as the signature releases to document the review, validation, and verification as described in Section B3-10. All testing, sampling, ~~and~~ analytical batch data reports, **data summary reports**, and **data review** checklists shall be on approved forms, as provided in site-specific documentation.*

**8. Attachment B3, Section B3-12, Page B3-32, Lines 15 to 35, and Page B3-33, Lines 1 to 19**

Project Level

There are two aspects to project level reporting. First, summarized testing, sampling, and analytical data must be reported on a per-waste container basis *in container summary reports*. Second, summarized characterization information must be reported on a waste stream basis *in a waste stream characterization summary package*.

~~Summarized~~ *Testing, sampling, and analytical batch data reports and raw data shall be transmitted by hard copy or electronically from the Site Project Manager to the Permittees when requested. Participating sites shall combine data from individual waste containers into waste stream characterization summary packages for reporting. Hard copy or electronic waste stream characterization summary packages shall consist of the following:*

- *Cover page with the site name, program identification, waste container numbers for containers included in the data package, and release signatures of the Site Project Manager and Site Project QA Officer*
- *Table of contents; and*
- *A concise narrative that summarizes the results of the project-level review and briefly describes any problems or other noteworthy items of interest associated with the ~~review~~ data (i.e., nonconformance reports, operational variances). The narrative shall include separate sections which address results of duplicates/replicates and nonconformance reports associated with the waste containers being reported in the package.*
- *For each waste container being reported in the waste stream characterization summary packages, the following information shall be included:*
  - *Cover page with the site name, program identification, waste container number, and approval/release signatures of the Site Project Manager and Site Project QA Officer*
  - *A table that relates sample numbers (testing, sampling, and analytical) to waste container number*
  - *Table of contents*

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- *Site Project QA Officer Summary*
- *Data Validation Summary*
- *Data summary reports for radiography (if applicable)*~~Radiography results~~
- *Data summary reports for waste container VOCs*~~Waste container headspace gas hydrogen, methane, and VOC summary analytical results~~
- *Data summary reports for Total VOC, SVOC, and metal analytical results for homogenous solids and soil/gravel (if applicable)*
- *Acceptable knowledge summary report supporting the waste stream characterization.*~~All process knowledge documentation supporting the waste stream characterization~~



COMMENT 186: Attachment B, Introduction, Page B-2, Line 17 to 30

A. Draft Permit Module or Attachment Text

*Some TRU mixed waste is retrievably stored at the DOE generator/storage sites. Additional TRU mixed waste will be generated and packaged into containers at these generator/storage sites in the future. TRU mixed waste will be retrieved from storage areas at a DOE generator/storage site. Retrievably stored waste is defined as TRU mixed waste generated after 1970 and before modification of the Permit designating a generator/storage site as implementing and complying with the requirements of the WAP NMED notifies the Permittees, by approval of the final audit report, that the characterization requirements of the WAP at a generator/storage site have been implemented. Newly generated waste is defined as TRU mixed waste generated after modification of the Permit designating a generator/storage site as implementing and complying with the requirements of the WAP NMED approves the final audit report for a generator/storage site. Retrievably stored TRU mixed waste will be characterized on an ongoing basis, as the waste is retrieved. Newly generated TRU mixed waste shall be characterized as it is generated. Waste characterization requirements for retrievably stored and newly generated TRU mixed wastes differ, as discussed in Sections B-3d(1) and B-3d(2).*

B. Discussion of the Draft Permit Condition

This is a resubmittal of Comment 21. The retrievably stored and newly generated categories are unnecessary and confusing, and should be deleted.

The terms “retrievably stored” and “newly generated” were first used in the WIPP transportation program to differentiate TRU waste. The terms are currently found in the TRUCON document, and are defined as follows:

Retrievably Stored Waste - TRU waste that has been stored in a controlled manner to be readily retrievable at some future time for processing or reshipment, and which was not certified to meet the WAC at the time of generation. All retrievably stored waste was generated in 1970 or later.

Newly Generated Waste - Waste generated to meet the WIPP WAC.

The QAPP, Rev. 0 seems to have borrowed these terms from the TRUCON, although, the terms have completely different meanings. The QAPP definitions are as follows:

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Retrievably Stored Waste - Waste that has been generated before the development and implementation of a TRU waste characterization program that meets the requirements outlined in this QAPP.

Newly Generated Waste - Waste that is generated after the development and implementation of a TRU waste characterization program that meets the requirements outlined in this QAPP.

Finally, Attachment B of the Second Draft defines these terms on page B-2: "Retrievably stored waste is defined as TRU mixed waste generated after 1970 and before NMED notifies the Permittees, by approval of the final audit report, that the characterization requirements of the WAP at a generator/storage site have been implemented. Newly generated waste is defined as TRU mixed waste generated after NMED approves the final audit report for a generator/storage site."

The actual differences between these waste types are minimal. Basically, there are two differences in actual characterization methods for the two types of waste:

1. Radiography is the preferred method of physical characterization for retrievably stored waste containers;
2. Homogeneous waste sampling techniques are generally different for retrievably stored versus newly generated homogeneous waste; the methodology for choosing containers to sample is also different.

Given the relatively minor differences in how the two types of waste are characterized, the Permittees propose to abolish the categories. When it is necessary to describe how waste is characterized based on its current state, the WAP will simply refer to "previously packaged waste" and "waste that is characterized before and during packaging." These will not be separate categories of waste, simply descriptions of how the waste is characterized.

Adopting this proposal will greatly simplify and streamline the waste certification and characterization process at the generator/storage sites, and allow more waste to be quickly and efficiently characterized. It allows more flexibility in using repackaging and other treatment options, without regard to the current "status" of the waste (whether it is retrievably stored or newly generated).

In addition, deleting this unnecessary categorization, sites will have added flexibility to tailor the specific characterization program directly to the waste stream. This is especially appropriate for physical characterization, where each waste stream can be individually analyzed to determine the best combination of acceptable knowledge, radiography, and visual examination that should be used.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B, Introduction, Page B-2, Line 17 to 30**

~~Some TRU mixed waste is retrievably stored at the DOE generator/storage sites. Additional TRU mixed waste will be generated and packaged into containers at these generator/storage sites in the future. TRU mixed waste will be retrieved from storage areas at a DOE generator/storage site. Retrievably stored waste is defined as TRU mixed waste generated after 1970 and before NMED notifies the Permittees, by approval of the final audit report, that the characterization requirements of the WAP at a generator/storage site have been implemented. Newly generated waste is defined as TRU mixed waste generated after NMED approves the final audit report for a generator/storage site. Retrievably stored TRU mixed waste will be characterized on an ongoing basis, as the waste is retrieved. Newly generated TRU mixed waste shall be characterized as it is generated. Waste characterization requirements for retrievably stored and newly generated TRU mixed wastes differ, as discussed in Sections B-3d(1) and B-3d(2).~~

**2. Attachment B-1a, Page B-5, Lines 28 to 33**

~~TRU mixed waste destined for disposal at WIPP will be characterized on a waste stream basis. Generator/storage sites will delineate waste streams using acceptable knowledge. Required acceptable knowledge is as specified in Section B-3b and Permit Attachment B4. If acceptable knowledge for retrievably stored waste does not comply with these requirements (i.e., heterogenous Debris Waste in Summary Category S5000), the Permittees will reexamine (and characterize) the waste as newly generated waste.~~

**3. Attachment B-1c, Page B-7, Line 9**

~~any retrievably stored waste container which has not undergone either radiographic or visual examination~~

**4. Attachment B-3d, Page B-13, Lines 14 to 15**

~~B-3d Characterization Techniques and Frequency for Newly Generated and Retrievably Stored Waste~~

**5. Attachment B-3d, Page B-13, Line 16 to 33**

~~Generator/storage sites will use acceptable knowledge to delineate all TRU mixed waste containers into waste streams for the purposes of grouping waste for further characterization. The analyses performed will not differ based on the waste stream,~~

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~~only on the physical form of the waste (i.e., heterogeneous debris waste cannot be sampled for totals analyses). Both retrievably stored and newly generated wastes will be delineated in this fashion, though the types of acceptable knowledge used may differ. Section B-3b discusses the use of acceptable knowledge, sampling, and analysis in more detail. Acceptable knowledge is discussed more completely in Permit Attachment B4. Every waste stream will be assigned hazardous waste codes based upon acceptable knowledge, and the Permittees will confirm these designations using headspace gas (all Summary Category Groups) and solid sampling and analysis (Summary Category Groups S3000 and S4000 only).~~

~~Radiography and/or VE will be used to verify the physical form of **all waste**. retrievably stored TRU mixed waste. For newly generated waste, physical form and prohibited items will be verified during packaging (using the VE technique). Radiography and/or VE will also be used in conjunction with acceptable knowledge to characterize heterogeneous debris wastes. Radiography and/or VE, and the associated information compiled from acceptable knowledge (e.g., age of the waste, generating process) will be used to determine the RCRA-regulated constituents present in the waste.~~

### **6. Attachment B-3d, Page B-13, Lines 34 to 40 and Page B-14, Lines 1 to 24**

~~All **W**waste containers (retrievably stored and newly generated) are sampled and analyzed **as specified in Permit Module II.C.3.i** for VOCs in the headspace gas. A statistically selected portion of each homogeneous solids and soil/gravel waste stream is sampled and analyzed for RCRA-regulated total VOCs, SVOCs, and metals (see Permit Attachment B2). Sampling and analysis methods used for waste characterization are discussed in Section B-3a. In the process of performing organic headspace and solid sample analyses, nontarget compounds may be identified. These compounds will be reported as TICs. TICs found in 25% of the samples and listed in 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII, will be compared with acceptable knowledge data to determine if the TIC is in a listed hazardous waste in the waste stream. If the **source or origin of the** TIC cannot be identified (e.g., as a component of waste packaging materials or as a product of radiolysis), the Permittees will add these TICs to the list of hazardous constituents for the waste stream (and assign additional EPA listed hazardous waste codes, if appropriate). A permit modification will be submitted to NMED for their approval to add these constituents (and waste codes), if necessary. For toxicity characteristic compounds and non-toxic F003 constituents, the Permittees may consider waste concentration when determining whether to change a hazardous waste code. Refer to Permit Attachment B3 for additional information on TIC identification.~~

~~Waste characterization solid sampling and analysis activities will differ for retrievably stored waste and newly generated waste. The waste characterization data collection~~

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~~design for each type of waste is described in the following sections. Table B-1 provides a summary of hazardous waste characterization requirements for all TRU mixed waste by waste characterization parameters.~~

~~Table B-6 summarizes the parameters, methods, and rationales for stored and newly generated CH TRU mixed wastes according to their waste forms. Table B-1 provides a summary of hazardous waste characterization requirements for TRU mixed waste. Table B-6 summarizes the parameters, methods, and rationales for CH TRU mixed waste according to their waste forms.~~

WIPP may accept TRU mixed waste that has been repackaged or treated. Repackaged waste shall undergo characterization required of newly generated waste. Repackaged waste shall ~~also undergo~~ **be sampled for** headspace gas analysis **after it has been repackaged and the** , and payload container headspace shall be sampled after repackaging, as long as the criteria specified in Permit Attachment B1-1 are met. Treated waste shall be considered newly generated waste, and shall retain the original waste stream's listed hazardous waste code designation.

**7. Attachment B-3d(1), Page B-14, Lines 26 to 36 and Page B-15, Lines 1 to 12**

**B-3d(1) Waste Characterized Before and During Packaging ~~Newly Generated Waste~~**

The RCRA-regulated constituents in **waste characterized before and during packaging** ~~newly generated wastes~~ will be documented and verified at the time of generation **to provide** ~~based on acceptable knowledge for the waste stream. Newly generated TRU mixed waste~~ **C** characterization will begin with verification that processes generating the waste **are operating** ~~have operated~~ within established written procedures. Waste containers will then be delineated into waste streams using acceptable knowledge. Verification that the physical form of the waste (Summary Category Group) corresponds to the physical form of the assigned waste stream is accomplished during packaging (using the VE technique). This process consists of the operator confirming that the waste is assigned to a waste stream that has the correct Summary Category Group for the waste being packaged. If a confirmation cannot be made, corrective actions will be taken as specified in Permit Attachment B3. A second operator, who is equally trained to the requirements stipulated in Permit Attachment B1, will provide additional verification by reviewing the contents of the waste container to ensure correct reporting. If the second operator cannot provide concurrence, corrective actions will be taken as specified in Permit Attachment B3. The subsequent waste characterization activities depend on the assigned Summary Category Group, since waste within the Homogeneous Solids and Soils/Gravel Summary Category Groups will be characterized using different techniques than the waste in the Debris Waste Summary Category Group.

~~C~~All containers of newly generated waste will undergo headspace-gas analysis as specified in Permit Module II.C.3.i for VOC concentrations prior to shipment. If the Permittees believe the frequency can be reduced in the future based on trends in analytical results, they may provide technical arguments for such a reduction and request a permit modification from NMED. The headspace-gas sampling method is provided in Permit Attachment B1. Headspace gas data will be used to confirm acceptable knowledge waste characterization

#### **8. Attachment B-3d(1)(a), Page B-15, Lines 13 to 29**

##### ~~B-3d(1)(a) Sampling of Homogeneous Solids Before and During Packaging~~ ~~Sampling of Newly Generated Homogenous Solids~~

~~H~~Newly generated mixed waste streams of homogeneous solids will be randomly sampled a minimum of once per year when sampled before and during packaging for total PCBs, VOCs, SVOCs and metals. An initial ten-sample set, however, will be collected to develop the baseline control chart. Sampling frequency of once per year is only allowed if a process has operated within procedurally established bounds without any process changes or fluctuations which would result in either a new waste stream or the identification of a new hazardous waste constituent in that waste stream. Otherwise, the waste shall be considered as process batches and each batch will undergo sampling and analysis. Process changes and process fluctuations will be determined using statistical process control charting techniques; these techniques require the ten-sample baseline and historical data for determining limits for indicator species and subsequent periodic sampling to assess process behavior relative to historical limits. If the limits are exceeded, the waste stream shall be recharacterized, and the characterization shall be performed according to procedures required for retrievably stored waste (i.e., waste sampling frequency will be increased). The process behind this control charting technique is described in Permit Attachment B2.

#### **9. Attachment B-3d(1)(b), Page B-17, Lines 8 to 38**

##### ~~B-3d(1)(b) Sampling of Soils/Gravels Before and During Packaging~~ ~~Sampling of Newly Generated Soils/Gravels~~

~~Newly generated~~ Soils/gravel waste will be generated primarily by remediation or decontamination and decommissioning (D&D) activities. Process controls for these types of waste cannot readily be defined and, therefore, sampling cannot follow that used for newly generated homogenous waste. The number of newly generated soils/gravel waste containers to be sampled will be determined using the procedure specified in Section B-3a(2), wherein a statistically selected portion of the waste will be sampled. The generators shall estimate the number of containers to be sampled within the waste stream based on the expected volume of the waste stream and



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whether SWB or 55-gallon drum containers will be used. Refer to Permit Attachment B2 for additional information.

### **B-3d(2) Characterization of Previously Packaged Waste** ~~Retrievably Stored Waste~~

~~Previously packaged~~ All ~~retrievably stored~~ waste containers will first be delineated into waste streams using acceptable knowledge. All ~~retrievably stored~~ waste ~~C~~containers will be ~~examined using radiography~~ or **visually examined** to confirm the physical waste form (Summary Category Group), **and** to verify the absence of prohibited items, ~~and to determine the waste characterization techniques to be used based on the Summary Category Groups (i.e., S3000, S4000, S5000). Repackaged retrievably stored waste will be considered newly generated waste. Radiographic results will be compared to acceptable knowledge results to ensure correct Waste Matrix Code assignment and identification of prohibited items. If radiography~~ **ie or visual examination** analysis do not confirm the physical waste form, waste will be reassigned as specified in Section B-3c. ~~Generator/storage sites may elect to substitute visual examination for radiographic analysis.~~

To confirm the results of radiography, a statistically selected number of the TRU mixed waste container population will be visually examined by opening containers to inspect waste contents to verify radiography results. Permit Attachment B2 contains the approach used to statistically select the number of drums to be visually examined. For homogenous waste and soils/gravels selected for sampling, the containers opened for sampling may be used to help fulfill the visual examination requirements.

~~All retrievably stored~~ ~~C~~containers will undergo headspace gas analysis **as specified in Permit Module II.C.3.i** for VOC concentrations. The headspace gas sampling method is provided in Permit Attachment B1. All headspace gas data will be used to confirm acceptable knowledge waste characterization, as specified in Permit Attachment B4.

### **10. Attachment B-3d(2), Page B-18, Lines 1 to 10**

A statistically selected portion of ~~retrievably stored~~ homogeneous solids and soil/gravel wastes will be sampled and analyzed for total VOCs, SVOCs, and metals. The approach used to statistically select drums for homogeneous solids and soil/gravel wastes is different than the method used to select waste containers for visual examination. This method is also included in Permit Attachment B2. The sampling methods for these wastes are provided in Permit Attachment B1.

The toxicity characteristic of ~~retrievably stored~~ homogeneous solids and soil/gravel wastes will be determined using total analysis of toxicity characteristic parameters or

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*TCLP. Appendix C3 of the WIPP RCRA Part B Permit Application (DOE, 1997) discusses comparability of totals analytical results to those of the TCLP method.*

**11. Attachment B, Table B-6, Page B-48 to Page B-51**

Combine (Stored waste) and (Newly Generated) portions of the Table. Note minor differences between “Previously Packaged Waste” and “Waste Characterized Before and During Packaging” [No redline/strikeout provided]

**12. Attachment B, Figure B-2, Page B-59**

Change title to: Process for Characterizing Waste Before and During Packaging. Delete “newly generated” from starting block. Change wording in block for soils/gravel to: “See process for previously packaged waste”. [No markup provided]

**13. Attachment B, Figure B-3, Page B-60**

Change title to: Process for Characterizing Previously Packaged Waste. Change starting block to “Previously packaged waste”. Change side block to “See process for characterizing waste before and during packaging” [No markup provided]

**14. Attachment B1, Section B1-2a, Page B1-13, line 22 to 26**

*Samples of ~~retrievably stored waste containers~~ **previously packaged waste** will be collected using appropriate coring equipment to **or other EPA approved methods** collect a representative sample core. **Waste sampled before and during packaging:** ~~Newly generated wastes that are sampled from a process as it is generated~~ may be sampled using EPA approved methods, including scoops and ladles, that are capable of collecting a representative sample. All sampling and core sampling will comply with the QC requirements specified in B1-2b.*

**15. Attachment B1-2a(2), Page B1-16, lines 33 to 36**

***Waste sampled before and during packaging may use** ~~Newly generated waste samples may be collected using methods other than coring, as discussed in Section B1-2a. Newly generated wastes~~ **S**amples will be collected as soon as possible ~~after~~ **after** sampling, but the spatial and temporal homogeneity of the waste stream dictate whether a representative grab sample or composite sample shall be collected. As part of the site audit, the Permittees shall assess waste sampling to ensure collection of representative samples.*

**16. Attachment B1-2b(1), Page B1-17, Lines 6 to 25**



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*In accordance with the requirement to collect field duplicates required by the Environmental Protection Agency (EPA) methods found in SW-846 (EPA 1996), samples shall be collected to determine the combined precision of the coring and sampling procedures. The co-located core methodology is a duplicate sample collection methodology intended to collect samples from a second core placed at approximately the same location within the drum when samples are collected by coring. **For sample methods other than coring,** ~~Newly generated waste may not be amenable to coring in some instances. In this case, a co-located sample may be collected from a sample (e.g. scoop) collected from approximately the same location in the waste stream. **Co-located cores or samples shall be collected near one another and handled in the same manner.** A sample from each co-located core or newly generated waste sample collected by other means shall be collected side by side as close as feasible to one another, handled in the same manner, visually inspected through the transparent liner (if cored), and sampled in the same manner as the same randomly selected sample location(s). If the visual examination detects inconsistencies such as color, texture, or waste type in the waste at the sample location, another sampling location may be randomly selected, or the samples may be invalidated and co-located samples or cores may again be collected. Co-located samples, from either core or other sample type, shall be collected at a frequency of one per sampling batch. A sampling batch is a suite of homogenous solids and soil/gravel samples collected consecutively using the same sampling equipment within a specific time period. A sampling batch can be up to 20 samples (excluding field QC samples), all of which shall be collected within 14 days of the first sample in the batch.~~*

### **17. Attachment B2, Introduction, Page B2-1, Lines 2 to 6**

*The Permittees shall require generator/storage sites (**sites**) to use the following statistical methods for sampling and analysis of TRU mixed waste which is managed, stored, or disposed at WIPP. These ~~statistical methods include methods for selecting waste containers for visual inspection, selecting retrievably stored waste containers for **coring** totals analysis, and determining the frequency of sampling waste before and during packaging. setting the upper confidence limit, and control charting for newly generated waste stream sampling.~~*

### **18. Attachment B2-2, Page B2-3, Lines 14 to 27**

***B2-2 Statistically Selecting Waste Containers for Sampling*** ~~Approach for Statistically Selecting Retrievably Stored Waste Containers for Totals Analysis~~

*The statistical approach for characterizing ~~retrievably stored~~ homogeneous solids and soil/gravel waste using sampling and analysis relies on using acceptable knowledge to segregate waste containers into relatively homogeneous waste*

*streams. Using acceptable knowledge, generator/storage sites will classify the entire waste stream as hazardous or nonhazardous rather than individual waste containers. Individual waste containers serve as convenient units for characterizing the combined mass of waste from the waste stream of interest. Once segregated by waste stream, random selection and sampling of the waste containers followed by analysis of the waste samples shall be performed to ensure that the resulting mean contaminant concentration provides an unbiased representation of the true mean contaminant concentration for each waste stream. The Permittees shall require each site project manager to verify that the samples collected from within a waste stream were selected randomly.*

**19. Attachment B2-4, Page B2-6, Lines 26 to 30 and Page B2-7, Lines 1 to 5**

*B2-4 **Control Charting for Waste Characterized Before and During Packaging** ~~Control Charting for Newly Generated Waste Stream Sampling~~*

*Significant process changes and process fluctuations associated with ~~newly generated~~ waste **characterized before or during packaging** will be determined using statistical process control (SPC) charting techniques; these techniques require historical data for determining limits for indicator species, and subsequent periodic sampling to assess process behavior relative to historical limits. SPC will be performed on waste prior to solidification or packaging for ease of sampling. If the limits are exceeded for any toxicity characteristic parameter, the waste stream shall be recharacterized, and the characterization shall be performed according to procedures required in the WAP.*

**20. Attachment B2, Figure B2-1, Page B2-14**

Delete "...Retrievably Stored..." in the title. [No markup provided]

**21. Attachment B4, Section B4-3c, Page B4-10, lines 24 to 26**

*~~Container inventories for TRU mixed waste currently in retrievable storage shall be delineated into waste streams by correlating the container identification to all of the required acceptable knowledge information and any supplemental acceptable knowledge information.~~*

**22. Attachment B4, Section B4-3c, Page B4-10, Lines 34 to 36 and Page B4-11, Lines 1 to 7**

*~~Acceptable knowledge characterization results shall be confirmed for both retrievably stored and newly generated waste. All retrievably stored waste shall be characterized using radiography or visual examination to confirm the Waste Matrix~~*

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~~Code and waste stream and certify compliance with the WAP (Permit Attachment B). If a site must repackage its retrievably stored waste, then visual examination of the waste during repackaging shall be used to confirm acceptable knowledge information rather than radiography.~~

~~For newly generated wastes, Ssites shall have written procedures to document the confirmation of acceptable knowledge information with visual examination prior to or during waste packaging. The following minimum requirements shall be addressed in site-specific procedures:~~

**23. Attachment B6, Table B6-1**

**Page B6-15** Delete "...retrievably stored..." from first bullet on page.

**Page B6-18** Delete "...for retrievably stored waste." In the first bullet.

**24. Attachment B6, Table B6-2**

**Page B6-37** Delete "...newly generated..." in first bullet.

Delete note in first bullet.

Delete ".. newly generated.." and "..retrievably stored.." in the second bullet.

**Page B6-38** Delete "...retrievably stored..." everywhere it appears in this bullet.

**Page B6-39** Delete "...newly generated..." everywhere it appears in this bullet.

**Page B6-40** Delete "...newly generated..." everywhere it appears in this bullet.

**Page B6-41** Delete "...retrievably stored..." and "...newly generated..." from third bullet.

**25. Attachment B6, Table B6-3**

**Page B6-70** Delete last sub-bullet on this page.

**Page B6-73** Delete "...newly generated..." in first bullet. Delete second bullet.

**Page B6-75** Replace last bullet with: "Do site documents state that radiography or VE is used to confirm waste matrix codes to waste streams assigned via AK?"

**Page B6-82** Delete "...for newly generated and retrievably stored waste." From first bullet.

**26. Attachment B6, Table B6-4**

**Page B6-85** Replace "...retrievably stored and newly generated waste containers..." with "...waste container..." in first bullet.

**27. Attachment B6, Table B6-5**

**Page B6-110** Replace second sub-bullet in the first bullet with: “Was an audio/videotape of the radiography examination and a radiography data form obtained for all radiographed waste containers?”

**28. Attachment B6, Table B6-6**

**Page B6-121** Replace “...retrievably stored...” with “...radiographed...”.

**COMMENT 187: Attachment B-1d, Page B-9, Lines 3 to 10**

**A. Draft Permit Module or Attachment Text**

*The WIPP Waste Operations Manager is **Permittees are** responsible for the review of Waste Stream Profile Forms (see Section B-4b and Figure B-1) and data records to verify compliance with the restrictions on TRU mixed wastes for WIPP disposal. The Permittees will submit completed Waste Stream Profile Forms to NMED prior to waste stream shipment under the **TSDf-WAC**. The WIPP Waste Operations Manager will also be responsible for the review of shipping records (see Section B-4b) to verify that each **waste** container has been prepared and characterized in accordance with **applicable provisions of this WAP**. Waste characterization data shall confirm the absence of prohibited items specified in Section B-1c.*

**B. Discussion of the Draft Permit Condition**

This is the resubmission of part of Comment 19, without further justification.

In the middle of the paragraph, the reference to: "...WIPP Waste Operations Manager..." should be changed to "...Permittees..."

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-1d, Page B-9, Lines 3 to 10**

*The Permittees are responsible for the review of Waste Stream Profile Forms (see Section B-4b and Figure B-1) and data records to verify compliance with the restrictions on TRU mixed wastes for WIPP disposal. ~~The Permittees will submit completed Waste Stream Profile Forms to NMED prior to waste stream shipment under the TSDf-WAC.~~ The **Permittees** WIPP Waste Operations Manager will also be responsible for the review of shipping records (see Section B-4b) to verify that each waste container has been prepared and characterized in accordance with applicable provisions of this WAP. Waste characterization data shall confirm the absence of prohibited items specified in Section B-1c.*

**COMMENT 188: Attachment B-3a(1), Page B-10, Lines 30 to 39, and Page B-11, Lines 1 to 2**

**A. Draft Permit Module or Attachment Text**

Every TRU mixed waste container will be sampled and analyzed to determine the concentrations of VOCs (presented in Table B-3) in headspace gases. Sampling protocols, equipment, and QA/QC methods for headspace-gas sampling are provided in Permit Attachment B1. In accordance with EPA convention, identification of compounds **hazardous constituents** detected by gas chromatography/mass spectrometry methods that are not on the list of target analytes shall be reported. These compounds are reported as tentatively identified compounds (TICs) in the ~~waste data package~~ **analytical batch data report** and shall be added to the target analyte list if detected in a given waste stream, and if they appear in either the 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII ~~or the 20 NMAC 4.1.500 (incorporating 40 CFR §264) Appendix IX list~~, **and are detected in 25% of the samples from a given waste stream**. The headspace gas analysis method Quality Assurance Objectives (QAOs) are specified in Permit Attachment B3.

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 27.

The permit should be revised to reference Permit Attachments B and B3 for an explanation of how to evaluate TICs for reporting and addition to the target analyte list. Many compounds in 40 CFR Part 261 Appendix VIII do not have approved analytical methods for determination. All compounds listed in 40 CFR Part 264 Appendix IX have approved methods available for analysis. The specifics of TIC determination are explained in Permit Attachment B3 and this information should be provided in only one place.

Without the proposed revisions, sites are required to identify compounds that may be reflected by very small peaks or in the baseline "noise" of the instrument output. This could lead to excessive false positive TIC identification.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-3a(1), Page B-10, Line 30 to 39, and Page B-11, Lines 1 to 2**

~~Every TRU mixed waste container will be sampled and analyzed to determine the concentrations of VOCs (presented in Table B-3) in headspace gases.~~ **A**

*statistically selected portion of containers from each waste stream will be sampled and analyzed for VOCs (presented in Table B-3) in headspace gases. Waste streams that have been thermally treated or that AK conclusively shows that VOCs are not present are exempt from headspace gas sampling. The number of containers sampled in each waste stream will be determined by the generator/storage site using the principles of SW-846, Chapter 9, and documents. Sampling protocols, equipment, and QA/QC methods for headspace-gas sampling are provided in Permit Attachment B1. In accordance with EPA convention, identification of hazardous constituents detected by gas chromatography/mass spectrometry methods that are not on the list of target analytes shall be reported in accordance with Permit Attachment B3. These compounds are reported as tentatively identified compounds (TICs) in the analytical batch data report and shall be added to the target analyte list if detected in a given waste stream, if they appear in the 20 NMAC 4.1.200 (incorporating 40 CFR §261) Appendix VIII, and are detected in 25% of the samples from a given waste stream. The headspace gas analysis method Quality Assurance Objectives (QAOs) are specified in Permit Attachment B3.*

## **2. Attachment B3-1, Page B3-5, Line 20**

### Identification of Tentatively Identified Compounds

*In accordance with SW-846 convention, identification of compounds detected by gas chromatography/mass spectrometry methods that are not on the list of target analytes shall be reported. Headspace gas, volatile analysis (TCLP/Totals), and semi-volatile (TCLP/Totals) shall be subject to tentatively identified compound (TIC) reporting. These TICs are identified in accordance with the following SW-846 criteria:*

*For samples containing TICs with total ion current peaks greater than 10 percent of the nearest (RT) internal standard, appropriate search routines of the latest NIST or equivalent mass spectral library must be performed on the 20 greatest in area count. For samples analyzed using external standard quantitation, mass spectral library searches must be performed on up to 20 TICs (those with the greatest area counts) which have total ion current peaks greater than 10 percent of the largest target analyte identified, or ten times the standard deviation of the background. For samples analyzed using FTIRS, a library search must be performed to determine the five most likely compounds contributing to the detected interference."*

- ~~• Relative intensities of major ions in the reference spectrum (ions greater than 10% of the most abundant ion) must be present in the sample spectrum.~~
- ~~• The relative intensities of the major ions must agree within  $\pm 20$  percent.~~

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- ~~• Molecular ions present in the reference spectrum must be present in the sample spectrum~~
- Ions present in the sample spectrum but not in the reference spectrum should be reviewed for possible background contamination or presence of coeluting compounds
- Ions present in the reference spectrum but not in the sample spectrum should be reviewed for possible subtraction from the sample spectrum because of background contamination or coeluting peaks.



**COMMENT 189: Attachment B-3a(2), Page B-11, Lines 4 to 9**

**A. Draft Permit Module or Attachment Text**

***B-3a(2) Homogeneous **Solid** and Soil/Gravel Sampling and Analysis***

*Sampling of homogeneous and soil/gravel wastes shall result in the collection of a sample that is ~~representative of the waste stream~~ **used to confirm hazardous waste code assignment by acceptable knowledge.** ~~Representative Sampling is accomplished through core~~ **or other** sampling, which is described in Permit Attachment B1. The waste containers for sampling and analysis are to be selected randomly from the population of containers for the waste stream. The random selection methodology is specified in Permit Attachment B2.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 28.

This condition should be revised because some homogenous solids and soil/gravel wastes can not be representatively sampled using coring equipment. For example, certain loosely-packed homogenous solids and soil/gravel wastes can not be sampled using coring because the waste material will fall out of the core liner as the coring equipment is removed from the waste. These types of wastes are more efficiently sampled using other EPA approved sampling methods.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-3a(2), Page B-11, Lines 4 to 9**

*Sampling of homogeneous and soil/gravel wastes shall result in the collection of a sample that is used to confirm hazardous waste code assignment by acceptable knowledge. Sampling is accomplished through core or other **EPA Approved** sampling, which is described in Permit Attachment B1. The waste containers for sampling and analysis are to be selected randomly from the population of containers for the waste stream. The random selection methodology is specified in Permit Attachment B2.*

**2. Attachment B1-2a, Page B1-13, Lines 22 to 26**

*Samples of **previously packaged waste** ~~retrievably stored waste containers~~ will be collected using appropriate coring equipment **or other EPA approved methods** to collect a representative sample core. **Waste sampled before and during packaging.** ~~Newly generated wastes that are sampled from a process as it is generated~~ may be sampled using EPA approved methods, including scoops and ladles, that are capable of collecting a representative sample. All sampling and core sampling will comply with the QC requirements specified in B1-2b.*

**COMMENT 190: Attachment B-3c, Page B-12, Lines 32 to 40, and Page B-13, Lines 1 to 9**

**A. Draft Permit Module or Attachment Text**

*Generator/storage sites may conduct visual examination of waste containers in lieu of radiography. For generator/storage sites that choose to use visual examination in lieu of radiography, the detection of any liquid waste in non-transparent inner containers, detected from shaking the container, will be handled by assuming that the container is filled with liquid and adding this volume to the total liquid in the payload container (e.g., 55 gallon drum or SWB). The payload container would be rejected and/or repackaged to exclude the container if it is over the TSDf-WAC limits any liquid that is detected is over permit limits and the container will be rejected and/or repackaged to exclude the unacceptable characteristic. When radiography is used, or visual examination of transparent containers is performed, if any liquid in inner containers is detected, the volume of liquid shall be added to the total for the payload container the item (in the case of VE) or container (in the case of radiography) will be rejected. Radiography, or the equivalent, will be used on the existing/stored waste containers to verify the physical characteristics of the TRU mixed waste correspond with its waste stream identification/waste stream Waste Matrix Code and to identify prohibited items. The results of radiography are verified through visual examination of a statistically selected subpopulation of TRU mixed waste containers in each TRU mixed waste stream examined over a 12-month period. Radiographic examination protocols and QA/QC methods are provided in Permit Attachment B1.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 30.

The reference to "in each TRU mixed waste stream" at the end of the paragraph should be deleted. Visual examination is performed on drums randomly selected from the total certified population over a twelve month period. The statistical approach used to select containers for visual examination need not depend on a waste stream to ensure miscertification rates of less than 14%.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-3c, Page B-12, Lines 32 to 40, and Page B-13, and Lines 1 to 9**

*Generator/storage sites may conduct visual examination of waste containers in lieu of radiography. For generator/storage sites that choose to use visual examination in lieu of radiography, the detection of any liquid waste in non-transparent inner containers, detected from shaking the container, will be handled by assuming that the container is filled with liquid and adding this volume to the total liquid in the payload container (e.g., 55 gallon drum or SWB). The payload container would be*

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*rejected and/or repackaged to exclude the container if it is over the TSDF-WAC limits. When radiography is used, or visual examination of transparent containers is performed, if any liquid in inner containers is detected, the volume of liquid shall be added to the total for the payload container. Radiography, or the equivalent, will be used on the existing/stored waste containers to verify the physical characteristics of the TRU mixed waste correspond with its waste stream identification/waste stream Waste Matrix Code and to identify prohibited items. The results of radiography are verified through visual examination of a statistically selected subpopulation of TRU mixed waste containers ~~in each TRU mixed waste stream~~ examined over a 12-month period. Radiographic examination protocols and QA/QC methods are provided in Permit Attachment B1.*

**COMMENT 191: Attachment B-4a(6), Page B-24, Lines 10 to 28**

**A. Draft Permit Module or Attachment Text**

*Data for each container will be transmitted by hard copy and/or electronically (provided a hard copy is available on demand) from the data generation level to the generator/storage site TRU mixed waste characterization project level. Transmitted data will include testing, sampling, and analytical **batch** data reports and data review checklists including results of Level I and II validation and verification. **The Permittees will ensure that testing, sampling, and analytical batch data will be are reported for each waste container. These data and are also** will also be input electronically into the WIPP Waste Information System (WWIS). Data will be entered into the WWIS in the exact format required by the database [see Section B-4b for WWIS data requirements and Appendix C13 of the WIPP RCRA Part B Permit Application (DOE, 1997) for the WWIS data dictionary]. Summarized characterization information will also be reported on a waste stream basis and transmitted by hard copy or electronically to the **Permittees WIPP Waste Operations when requested. Hard copy or electronic data packages waste stream characterization summary packages** will include generator/storage site name, program identification, waste container numbers, release signatures from the generator/storage Site Project Manager and Generator/Storage Site Project QA Officer, and a concise narrative summarizing the results of the generator/storage site project-level review. Permit Attachment B3 provides the format requirements for generator/storage site hard copy and/or electronic data reports. The report will briefly describe any problems or other observations (e.g., nonconformance reports, operational variances).*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

In 1998, Permittees suspended the use of Operational Variances because there had been instances of generator/storage sites improperly using them instead of other more appropriate systems. Specifically, sites are now directed to use Corrective Actions and Non-Conformances to document changes to their programs.

This is basically an administrative change and does not affect NMED's control or access to the work done by the Permittees or by the generator/storage sites.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-4a(6), Page B-24, Lines 10 to 28**

*Data for each container will be transmitted by hard copy and/or electronically (provided a hard copy is available on demand) from the data generation level to the generator/storage site TRU mixed waste characterization project level. Transmitted*

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*data will include testing, sampling, and analytical batch data reports and data review checklists. The Permittees will ensure that testing, sampling, and analytical batch data are reported for each waste container and are also input electronically into the WIPP Waste Information System (WWIS). Data will be entered into the WWIS in the exact format required by the database [see Section B-4b for WWIS data requirements and Appendix C13 of the WIPP RCRA Part B Permit Application (DOE, 1997) for the WWIS data dictionary]. Summarized characterization information will also be reported on a waste stream basis and transmitted by hard copy or electronically to the Permittees. Hard copy or electronic waste stream characterization summary packages will include generator/storage site name, program identification, waste container numbers, release signatures from the generator/storage Site Project Manager and Generator/Storage Site Project QA Officer, and a concise narrative summarizing the results of the generator/storage site project-level review. Permit Attachment B3 provides the format requirements for generator/storage site hard copy and/or electronic data reports. The report will briefly describe any problems or other observations (e.g., nonconformance reports; operational variances).*

### **2. Attachment B3-13, Page B3-34, Lines 6 to 14**

*The Permittees shall require the status of work and the WAP activities at participating generator/storage sites to be monitored and controlled by the Site Project Manager and Site Project QA Officer. This monitoring and control shall include: ~~1) nonconformance identification, documentation, and reporting; and 2) operational variance identification, documentation, and reporting.~~*

*The nonconformances, ~~operational variances,~~ and corrective action processes specified in this section describe procedures between the Permittees and the generator/storage sites. The Permittees shall comply with the nonconformance requirements specified in Section B3-1 of this Permit Attachment.*

### **3. Attachment B3-13, Page B3-35, Lines 25 to 35 and Page B3-26, Lines 1 to 15**

#### Operational Variances

*~~Variations are approved and controlled changes to WAP-related plans or procedures. The need for a variance is caused by the identification of improvement opportunities or unusual or non-routine occurrences that affect operations but not the ability to achieve the performance standards or quality requirements specified in this WAP or site QAPjPs. Each person performing WAP activities is responsible for the quality of their work and adherence to the applicable requirements contained in this WAP and site QAPjPs. When a need to deviate from established procedures is identified, it is the responsibility of the person performing the work to initiate a variance.~~*

*~~When a variance is required, the person identifying the need for the variation shall complete a Record of Variance and have a direct supervisor approve it. A Record of Variance must be completed and approved before initiation of the activity to~~*

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~~document the variation from normal, approved procedures. The Site Project QA Officer shall assess the significance of the variance and determine if changes to the plans or procedures and further notifications are required.~~

~~A Record of Variance must contain at least the following information:~~

- ~~● Title or heading, "Record of Variance"~~
- ~~● Waste container or sample identification number~~
- ~~● Reason for the deviation from the requirements contained in the QAPjP or SOP~~
- ~~● A description of the variation from the accepted sampling, testing, or analytical procedure~~
- ~~● A description of special equipment or personnel required~~
- ~~● Initiator's signature and date~~
- ~~● Supervisor's signature and date~~
- ~~● Site Project Manager's signature and date~~
- ~~● Site Project QA Officer's signature and date~~

**COMMENT 192: Attachment B-4b(1)(i), Page B-28, Lines 20 to 26**

**A. Draft Permit Module or Attachment Text**

• ***Container Emplacement Report***

***This report will be added to the operating record as an indication of the quantities of waste, date of emplacement, and location of authorized containers or container assemblies in the repository. The Permittees will document the specific panel room or drift that an individual waste container is placed in as well as the row/column/height coordinates location of the container or containers assembly. This report will be generated on a shipment weekly basis. Reports that are included as part of the operating record will be retained at the generator/storage site, for the life of the facility.***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. 20 NMAC 4.1.500 § 264.73(b)(2) requires the following; "For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest."

The Permittees will comply with this requirement at the WIPP by using the WWIS Waste Emplacement Report and facility maps. The report will indicate the quantities, date of emplacement, and location of authorized containers or container assemblies in the repository. The specific location in the room, panel and drift will be documented on a map and the appropriate cross reference information to manifests will be available in accordance with the regulations. The Permittees believe that this described method appropriately complies with 20 NMAC 4.1.500 § 264.73(b)(2) requirements.

Furthermore, the WWIS does not contain row, column, and height information for emplaced containers. This information was previously proposed in the draft data dictionary which was included with the Permittee's application (Appendix C-13). When the final WWIS data dictionary was published, the decision was made to document the waste location within the facility on a map as required in the RCRA and not to place this information in the WWIS. Copies of the final data dictionary are found in WP05-WA.06 *WIPP Waste Information System Software Requirements Specification*. This document has been provided to the NMED through the WIPP controlled documentation distribution system. The document was approved on June 17, 1997.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B-4b(1)(i), Page B-28, Lines 20 to 26**

*This report will be added to the operating record as an indication of the quantities of waste, date of emplacement, and location of authorized containers or container assemblies in the repository. The Permittees will document the specific panel room or drift that an individual waste container **or waste assembly (e.g., seven pack) is placed on a map separate from the WWIS. The WWIS emplacement report will be generated on a weekly basis to map the assembly emplacement information** as well as the row/column/height coordinates location of the container or containers assembly. ~~This report will be generated on a weekly basis.~~ Reports that are included as part of the operating record will be retained at the generator/storage site, for the life of the facility.*

**2. Module IV.H.2, Page IV-8**

*The Permittees shall maintain, in the operating record, a **map or diagram** record identifying the types and quantities of TRU mixed waste in each Underground HWDU and the disposal location of each container or container assembly (e.g., a 7-pack of standard 55-gallons drums) within each Underground HWDU. **The information on the diagram or map must cross reference the specific manifest number that accompanied the waste, if the waste is accompanied by a manifest;** using the following fields from the WWIS data dictionary:*

- 1. Panel Number*
- 2. Room Number or Drift Number*
- 3. Row Number*
- 4. Column Number*
- 5. Column Height*
- 6. Container Type Code*
- 7. Container Identification Number*
- 8. Manifest Document Number*
- 9. Disposal Date*



**COMMENT 193: Attachment B-4b(2), Page B-32, Lines 14 to 18**

**A. Draft Permit Module or Attachment Text**

**The Permittees Waste Operations personnel will verify that all this information is provided for each container received on each approved shipment upon receipt at WIPP against the data on the WWIS shipment summary report to ensure containers have the required information. A Waste Receipt Checklist will be used to document the verification. The ID will be compared with a list of those approved for disposal at WIPP.**

**B. Discussion of the Draft Permit Condition**

This is the resubmittal of a comment in the DOE Redline/Strikeout Version.

The last sentence in this paragraph should be deleted. During the TRUPACT-II receipt process at the WIPP, there are two verification mechanisms for determining that the shipment contains the correct containers of waste. These are the Hazardous Waste Manifest (HWM) and the WIPP Waste Information System (WWIS). The receipt process includes comparing the information on the HWM to the WWIS Shipment Summary Report. The HWM contains all of the information required, by including a summary of the payload contents. However, the HWM does not include the waste container IDs. Container ID information is provided in the WWIS. When the shipment arrives, the HWM information is compared to the WWIS Shipment Summary Report to verify that the TRUPACT-II is the correct one. Discrepancies are resolved in accordance with 20 NMAC 4.1.500 § 264.72 requirements. Verification of either a discrepancy or the absence of a discrepancy is recorded using Attachment 1 - TRUPACT-II Receipt Checklist, from procedure WP 06-HM1021 TRUPACT-II Receipt Checklist, current revision.

The second verification occurs when the TRUPACT-II is opened and the internal containers are removed. When the payload contents are unloaded, the container bar codes are scanned and compared to the IDs for those containers that are listed for the shipment in the WWIS. Once again, discrepancies are noted and dealt with in accordance with the regulations.

**C. Proposed Revision to Draft Permit Condition**

**1. Attachment B-4b(2), Page B-32, Lines 14 to 18**

*The Permittees will verify each approved shipment upon receipt at WIPP against the data on the WWIS shipment summary report to ensure containers have the required information. A Waste Receipt Checklist will be used to document the verification. The ID will be compared with a list of those approved for disposal at WIPP.*

**2. Attachment B-4b(2)(vii), Page B-36, Line 1**

*Completed Waste Receipt Checklists and discrepancy-related documentation as specified in Section B-4b(2)*

**COMMENT 194: Attachment B, Table B-8, Page B-53**

**A. Draft Permit Module or Attachment Text**

**TABLE B-8  
WIPP WASTE INFORMATION SYSTEM DATA FIELDS<sup>a</sup>**

Characterization Module Data Fields <sup>b</sup>	
Container ID <sup>c</sup>	Total VOC Analysis Date
Generator EPA ID	Total VOC Analyte Name <sup>d</sup>
Generator Address	Total VOC Analyte Concentration <sup>d</sup>
Generator Name	Total Metal Sample Date
Generator Contact	Total Metal Analysis Date
Hazardous Code	Total Metal Analyte Name <sup>d</sup>
Headspace Gas Sample Date	Total Metal Analyte Concentration <sup>d</sup>
Headspace Gas Analysis Date	Semi-VOC Sample Date
Headspace Gas Analyte <sup>d</sup>	Semi-VOC Analysis Date
Headspace Gas Concentration <sup>d</sup>	Semi-VOC Analyte Name <sup>d</sup>
Headspace Gas Char. Method <sup>d</sup>	Semi-VOC Concentration <sup>d</sup>
Total VOC Char. Method <sup>d</sup>	Transporter EPA ID
Total Metals Char. Method <sup>d</sup>	Transporter Name
Total Semi-VOC Char. Method <sup>d</sup>	Visual Exam Container <sup>e</sup>
Item Description Code	Waste Material Parameter <sup>d</sup>
Haz. Manifest Number	Waste Material Weight <sup>d</sup>
NDE Complete <sup>e</sup>	Waste Matrix Code
PCB Concentration <sup>f</sup>	Waste Matrix Code Group
Total VOC Sample Date	Waste Stream Profile Number
Certification Module Data Fields	
Container ID <sup>c</sup>	Fissile Gram Equiv.
Container type	Radioassay (RA) Date
Container Weight	RA Method
Contact Dose Rate	Radionuclide <sup>d</sup>
Container Certification date	Radionuclide Quan. <sup>d</sup>
Container Closure Date	Handling Code
Container Liner Type	Waste Weight
Decay Heat	Waste Fill %
Overpack Number (if any)	Surface Contamination
PE Curie Equiv.	Alpha Activity
Transportation Data Module	
Shipment Number	Layers of Packaging
TRUPACT Number	Ship Category
Assembly Number <sup>g</sup>	Ship Certification Date
Container IDs <sup>c,d</sup>	Ship Date
Filter Model	Receive Date
Filter Date	Vehicle Type
ICV Closure Date	

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**TABLE B-8  
WIPP WASTE INFORMATION SYSTEM DATA FIELDS<sup>a</sup>**

Disposal Module Data	
Container ID <sup>c</sup>	Disposal Location
Disposal Date	

<sup>a</sup> This is not a complete list of the WWIS data fields, but is a subset that contains the fields that are pertinent to RCRA.

<sup>b</sup> Some of the fields required for characterization are also required for certification and/or transportation.

<sup>c</sup> Container ID is the main relational field in the WWIS Database.

<sup>d</sup> This is a multiple occurring field for each analyte, nuclide, etc.

<sup>e</sup> These are logical fields requiring only a yes/no.

<sup>f</sup> Limits are applied to many fields. The limit for PCBs is 50 ppm.

<sup>g</sup> Required for 7-Packs of 55 gal drums to tie all of the drums in that assembly together. This facilitates the identification of waste containers in a shipment without need to breakup the assembly.

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. The deleted fields are not relevant to RCRA.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B, Table B-8, Page B-53**

**TABLE B-8  
WIPP WASTE INFORMATION SYSTEM DATA FIELDS<sup>a</sup>**

Characterization Module Data Fields <sup>b</sup>	
Container ID <sup>c</sup>	Total VOC Analysis Date
Generator EPA ID	Total VOC Analyte Name <sup>d</sup>
Generator Address	Total VOC Analyte Concentration <sup>d</sup>
Generator Name	Total Metal Sample Date
Generator Contact	Total Metal Analysis Date
Hazardous Code	Total Metal Analyte Name <sup>d</sup>
Headspace Gas Sample Date	Total Metal Analyte Concentration <sup>d</sup>
Headspace Gas Analysis Date	Semi-VOC Sample Date
Headspace Gas Analyte <sup>d</sup>	Semi-VOC Analysis Date
Headspace Gas Concentration <sup>d</sup>	Semi-VOC Analyte Name <sup>d</sup>
Headspace Gas Char. Method <sup>d</sup>	Semi-VOC Concentration <sup>d</sup>
Total VOC Char. Method <sup>d</sup>	Transporter EPA ID
Total Metals Char. Method <sup>d</sup>	Transporter Name
Total Semi-VOC Char. Method <sup>d</sup>	Visual Exam Container <sup>e</sup>
Item Description Code	Waste Material Parameter <sup>d</sup>
Haz. Manifest Number	Waste Material Weight <sup>d</sup>
NDE Complete <sup>e</sup>	Waste Matrix Code
PCB Concentration <sup>f</sup>	Waste Matrix Code Group
Total VOC Sample Date	Waste Stream Profile Number
Certification Module Data Fields	

**DOE/WD COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

**TABLE B-8  
WIPP WASTE INFORMATION SYSTEM DATA FIELDS<sup>a</sup>**

Container ID <sup>c</sup>	Fissile Gram-Equiv.
Container type	Radioassay (RA) Date
Container Weight	RA Method
Contact Dose Rate	Radionuclide <sup>d</sup>
Container Certification date	Radionuclide Quan. <sup>d</sup>
Container Closure Date	Handling Code
Container Liner Type	Waste Weight
Decay Heat	Waste Fill %
Overpack Number (if any)	Surface Contamination
PE-Curie Equiv.	Alpha Activity
<b>Transportation Data Module</b>	
Shipment Number	Layers of Packaging
TRUPACT Number	Ship Category
Assembly Number <sup>g</sup>	Ship Certification Date
Container IDs <sup>c,d</sup>	Ship Date
Filter Model	Receive Date
Filter Date	Vehicle Type
ICV Closure Date	
<b>Disposal Module Data</b>	
Container ID <sup>c</sup>	
Disposal Date	
Disposal Location	

<sup>a</sup> This is not a complete list of the WWIS data fields, but is a subset that contains the fields that are pertinent to RCRA.

<sup>b</sup> Some of the fields required for characterization are also required for certification and/or transportation.

<sup>c</sup> Container ID is the main relational field in the WWIS Database.

<sup>d</sup> This is a multiple occurring field for each analyte, nuclide, etc.

<sup>e</sup> These are logical fields requiring only a yes/no.

<sup>f</sup> Limits are applied to many fields. The limit for PCBs is 50 ppm.

<sup>g</sup> Required for 7-Packs of 55 gal drums to tie all of the drums in that assembly together. This facilitates the identification of waste containers in a shipment without need to breakup the assembly.

COMMENT 195: Attachment B1-1a, Page B1-1, Lines 9 to 24

A. Draft Permit Module or Attachment Text

***The Permittees shall require all headspace-gas sampling will be performed within a radiation containment area (e.g., glove box or hot/warm cell) on waste containers that are in compliance with the container equilibrium requirements (i.e. 72 hours at 18 - 29 ° C room temperature). within a radiation containment area (e.g., glove box or hot/warm cell). All waste containers designated as summary category S5000 (Debris waste) shall be sampled for headspace gas a minimum of 142 days after packaging and all waste containers designated as summary categories S3000 (Homogenous solids) and S4000 (Soil/gravel) shall be sampled a minimum of 225 days after packaging. This drum age criteria is to ensure that the drum contents have reached 90 percent of steady state concentration within each layer of confinement (Lockheed, 1995). The equilibrium time and drainage of all containers will be documented in headspace gas sampling documents. The configuration of the containment area and remote-handling equipment at each sampling facility are expected to differ. The Permittees shall require that a description of the containment area and remote-handling equipment must be is provided in the site quality assurance project plan (QAPjP) for each generator/storage-facility site. Headspace-gas samples will be analyzed for the analytes listed in Table B3-2 of Permit Attachment B3.***

B. Discussion of the Draft Permit Condition

This is a resubmittal of Comment 39.

This condition should be rewritten to allow the generator/storage sites to determine the proper aging time for containers, based on the container characteristics and the number of layers of confinement involved. The generator/storage site's rationale should be documented and available for review during site audits and surveillances. The DOE's original justification for the deletion of this paragraph was incomplete. While transportation requirements govern the aging time for containers, the times specified in this condition are based on observations made at the INEEL during tests to evaluate the diffusion rates from inner bags to the headspace of the container. The times established represent worst case scenarios, involving five layers of containment. These aging times are not required for all containers.

In addition, the following portions of this condition should be deleted:

"The Permittees shall require all headspace-gas sampling be performed within a

radiation containment area (e.g., glove box or hot/warm cell) on waste containers"

and

"The configuration of the containment area and remote-handling equipment at each sampling facility are expected to differ. The Permittees shall require that a description of the containment area and remote-handling equipment is provided in the site quality assurance project plan (QAPjP) for each generator/storage site."

If the data meets the QAOs of the Permit, the location and configuration of sampling activities is irrelevant.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B1-1a, Page B1-1, Lines 9 to 24**

*The Permittees shall require all headspace-gas sampling be performed ~~within a radiation containment area (e.g., glove box or hot/warm cell) on waste containers that are in compliance with the container equilibrium requirements~~ **determined by each generator/storage site based on container characteristics and layers of confinement involved** (i.e. 72 hours at 18 - 29 °C). All waste containers designated as ~~summary category S5000 (Debris waste) shall be sampled for headspace gas a minimum of 142 days after packaging and all waste containers designated as summary categories S3000 (Homogenous solids) and S4000 (Soil/gravel) shall be sampled a minimum of 225 days after packaging.~~ This drum age criteria is to ensure that the drum contents have reached 90 percent of steady state concentration within each layer of confinement (Lockheed, 1995). The equilibrium time and **drum age** drainage of all containers will be documented in headspace gas sampling documents. The configuration of the containment area and remote-handling equipment at each sampling facility are expected to differ. ~~The Permittees shall require that a description of the containment area and remote-handling equipment is provided in the site quality assurance project plan (QAPjP) for each generator/storage site.~~ Headspace-gas samples will be analyzed for the analytes listed in Table B3-2 of Permit Attachment B3.*

**COMMENT 196: Attachment B1-1a(1), Page B1-2, Lines 15 to 23**

**A. Draft Permit Module or Attachment Text**

*The manifold shall also be equipped with a purge assembly that allows applicable QC samples to be collected through **all sampling components that may affect compliance with the QAO's. The Permittees shall require the sites to demonstrate and document the effectiveness of the sampling equipment design in meeting the QAOs** ~~the entire manifold, from the needle tip through all of the same manifold components that the drum headspace gas passes through. Field blanks shall be samples of room air collected in the sampling area in the immediate vicinity of the waste container to be sampled. If using SUMMA® or equivalent canisters, field blanks shall be collected directly into the canister, without the use of the manifold.~~*

**B. Discussion of the Draft Permit Condition**

Field blanks can be collected through the manifold without an impact to data quality. Therefore, the requirement that field blanks be collected directly into the canister should be deleted. This is the resubmittal of a comment in the DOE Redline/Strikeout Version.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B1-1a(1), Page B1-2, Lines 15 to 23**

*The manifold shall also be equipped with a purge assembly that allows applicable QC samples to be collected through all sampling components that may affect compliance with the QAO's. The Permittees shall require the sites to demonstrate and document the effectiveness of the sampling equipment design in meeting the QAOs. Field blanks shall be samples of room air collected in the sampling area in the immediate vicinity of the waste container to be sampled. ~~If using SUMMA® or equivalent canisters, field blanks shall be collected directly into the canister, without the use of the manifold.~~*

**COMMENT 197: Attachment B3, Table B3-1, Page B3-41**

**A. Draft Permit Module or Attachment Text**

**TABLE B3-1  
WASTE MATERIAL PARAMETERS AND DESCRIPTIONS**

Waste Material Parameter	Description
Iron-based Metals/Alloys	Iron and steel alloys in the waste; does not include the waste container materials
Aluminum-based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials
Other Metals	All other metals found in the waste materials
Other Inorganic Materials	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbents
Cellulosics	Materials generally derived from high-polymer plant carbohydrates; (e.g., paper, cardboard, wood, and cloth)
Rubber	Natural or man-made elastic latex materials; (e.g., surgeons' gloves, and leaded rubber gloves)
Plastics (waste materials)	Generally man-made materials, often derived from petroleum feedstock; (e.g., polyethylene and polyvinyl chloride)
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents; (e.g., wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates)
Soils/gravel	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials
Steel (packaging materials)	55-gal (208-L) drums
Plastics (packaging materials)	90-mil polyethylene drum liner and plastic bags

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. Table B3-1 should be deleted because waste material parameters are not regulated under RCRA.



C. Proposed Revisions to the Draft Permit

1. Attachment B3, Table B3-1, Page B3-41

**TABLE B3-1  
WASTE MATERIAL PARAMETERS AND DESCRIPTIONS**

Waste Material Parameter	Description
Iron-based Metals/Alloys	Iron and steel alloys in the waste; does not include the waste container materials
Aluminum-based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials
Other Metals	All other metals found in the waste materials
Other Inorganic Materials	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbents
Cellulosics	Materials generally derived from high-polymer plant carbohydrates; (e.g., paper, cardboard, wood, and cloth)
Rubber	Natural or man-made elastic latex materials; (e.g., surgeons' gloves, and leaded rubber gloves)
Plastics (waste materials)	Generally man-made materials, often derived from petroleum feedstock; (e.g., polyethylene and polyvinyl chloride)
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents; (e.g., wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates)
Soils/gravel	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials
Steel (packaging materials)	55-gal (208-L) drums
Plastics (packaging materials)	90-mil polyethylene drum liner and plastic bags

**COMMENT 198: Attachment B3-1, Page B3-5, Lines 8 to 19**

**A. Draft Permit Module or Attachment Text**

*For any **non-administrative nonconformance or failure to meet the QAOs related to applicable requirements** specified in this Waste Analysis Plan (WAP) **which are identified at the site Project Manager signature release level, the Permittees shall receive written notification within five (5) calendar days of identification and** ~~of the nonconformance with five (5) calendar days of identification of the incident.~~ **The Permittees shall also receive a nonconformance report within thirty (30) calendar days of identification of the incident. The Permittees shall require the generator/storage site to implement a corrective action which remedies the nonconformance prior to management, storage, or disposal of the waste at WIPP. The Permittees shall send NMED a monthly summary of nonconformances identified during the previous month, indicating the number of nonconformances received and the generator/storage sites responsible** ~~meets the QAOs specified in this WAP within thirty (30) calendar days of identification of the incident.~~*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 44. The proposed revisions should be adopted to clarify permit requirements relative to non-administrative nonconformances. The term "non-administrative nonconformances" needs to be defined. Currently, the draft permit requires two forms of written notification at different times. This will lead to an excessive paperwork burden for the Permittees and the sites. By limiting the notification to one form and one time frame, the Permittees are still notified in writing and it will be easier to track and manage these notifications.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B3-1, Page B3-5, Lines 8 to 19**

*For any non-administrative nonconformance related to applicable requirements specified in this Waste Analysis Plan (WAP) which are identified at the site Project Manager signature release level, the Permittees shall receive written notification within five (5) calendar days of identification and shall also receive a ~~nonconformance report~~ within thirty (30) calendar days of identification **in the form of a nonconformance report** ~~of the incident.~~ **A non-administrative nonconformance is a nonconformance associated with failure to meet required testing, sampling, or analytical QAOs as reflected in quality control sample acceptance criteria.** The Permittees shall require the generator/storage site to implement a corrective action which remedies the nonconformance prior to management, storage, or disposal of*

**DOE/WID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

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*the waste at WIPP. The Permittees shall send NMED a monthly summary of nonconformances identified during the previous month, indicating the number of nonconformances received and the generator/storage sites responsible.*

**2. Attachment B3-13, Page B3-35, Lines 20**

*The Permittees will receive written notification of all nonconformances identified during the Site Project Manager Review within five (5) days of identification. The Permittees will also receive a nonconformance report within thirty (30) days of identification **in the form of a nonconformance report**. The generator/storage site will implement a corrective action process and resolve the identified nonconformance prior to the Permittees management, storage, or disposal of TRU mixed waste at WIPP.*

**COMMENT 199: Attachment B3-11, Page B3-30, Lines 1 to 20**

**A. Draft Permit Module or Attachment Text**

*For each waste stream characterized, the **Permittees shall require each Site Project Manager must to** determine if sufficient data have been collected to determine the following WAP-required waste parameters:*

- *Waste matrix code*
- *Waste material parameter weights*
- *Average mass and activity of each radionuclide of concern*
- *If each waste container of waste is **contains** TRU radioactive waste*
- *Average concentration of hydrogen, methane, and each VOC in the headspace gas of waste containers in the waste stream*
- *The potential flammability of TRU waste headspace gases*
- *Mean concentrations, UCL<sub>90-95</sub> for the mean concentrations, standard deviations, and number of samples collected for VOCs, SVOCs, and metals in the waste stream*
- *Whether the waste stream exhibits a toxicity characteristic (TC) under 40 CFR Part 261, Subpart C*
- *Whether the waste stream can be classified as hazardous or nonhazardous at the **90-95**-percent confidence level*
- *Whether a sufficient number of waste containers have been visually examined to determine with a reasonable level of certainty that the UCL<sub>90-95</sub> for the miscertification rate is less than 14 percent*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a portion of a comment in the DOE Redline/Strikeout Version. The proposed revisions set forth below should be accepted because waste material parameters, radionuclides, and hydrogen/methane are not regulated under

RCRA. The miscertification rate is evaluated and revised on an annual basis, not on a waste stream basis.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B3-11, Page B3-30, Lines 1 to 20**

*For each waste stream characterized, the Permittees shall require each Site Project Manager to determine if sufficient data have been collected to determine the following WAP-required waste parameters:*

- *Waste matrix code*
- *Waste material parameter weights*
- *Average mass and activity of each radionuclide of concern*
- *If each waste container of waste contains TRU radioactive waste*
- *Average concentration of hydrogen, methane, and each VOC in the headspace gas of waste containers in the waste stream*
- *The potential flammability of TRU waste headspace gases*
- *Mean concentrations, UCL<sub>90</sub> for the mean concentrations, standard deviations, and number of samples collected for VOCs, SVOCs, and metals in the waste stream*
- *Whether the waste stream exhibits a toxicity characteristic (TC) under 40 CFR Part 261, Subpart C*
- *Whether the waste stream can be classified as hazardous or nonhazardous at the 90 percent confidence level*
- *Whether a sufficient number of waste containers have been visually examined to determine with a reasonable level of certainty that the UCL<sub>90</sub> for t*  
*The miscertification rate is less than 14 percent **as evaluated once annually***

**COMMENT 200: Attachment B3-11, Page B3-31, Lines 13 to 14**

**A. Draft Permit Module or Attachment Text**

- *An inventory of radioactive materials and physical waste forms to support an assessment of repository performance;*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. This condition should be deleted from the permit because it is beyond the scope of RCRA.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B3-11, Page B3-31, Lines 13 to 14**

- ~~An inventory of radioactive materials and physical waste forms to support an assessment of repository performance~~

**COMMENT 201: Attachment B4-3f, Page B4-18, Lines 19 to 31**

**A. Draft Permit Module or Attachment Text**

*The National TRU Program disseminates information regarding TRU mixed waste characterization requirements and program status through the TRU Waste Characterization Interface Working Group. Sites use the CAO electronic bulletin board to disseminate information to other sites regarding TRU mixed waste streams, RCRA compliance, and operational and programmatic issues, methods development, and waste characterization information, including the application of acceptable knowledge. The Permittees are provided the required waste characterization information prior to waste acceptance **management, storage, or disposal of that waste** at WIPP and also will conduct audits at least annually. The Permittees will maintain an operating record for review during regulatory agency audits. ~~Regulatory agencies including NMED may also review any information relevant to the scope of the audit during site audits.~~ The Permittees will notify NMED regarding any site's failure to implement corrective actions associated with hazardous waste **characterization** determinations as specified in Modules I and II and Permit Attachment B3.*

**B. Discussion of the Draft Permit Condition**

This is the resubmittal of a comment in the DOE Redline/Strikeout Version.

The first and second sentences in this paragraph (lines 19 to 24) should be deleted because the Interface Working Group has been dissolved and the CAO electronic bulletin board is no longer in use. The CAO communicates program information using the WIPP Home Page and the Internet.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B4-3f, Page B4-18, Lines 19 to 31**

*The National TRU Program disseminates information regarding TRU mixed waste characterization requirements and program status through the **WIPP Internet Home Page**. ~~TRU Waste Characterization Interface Working Group. Sites use the CAO electronic bulletin board to disseminate information to other sites regarding TRU mixed waste streams, RCRA compliance, and operational and programmatic issues, methods development, and waste characterization information, including the application of acceptable knowledge.~~ The Permittees are provided the required waste characterization information prior to management, storage, or disposal of that waste at WIPP and also will conduct audits at least annually. The Permittees will maintain an operating record for review during regulatory agency audits. NMED may also review any information relevant to the scope of the audit during site audits. The Permittees will notify NMED regarding any site's failure to implement corrective actions associated with hazardous waste characterization as specified in Modules I and II and Permit Attachment B3.*

COMMENT 202: Attachment B6-1, Page B6-1, Lines 2 to 26

**A. Draft Permit Module or Attachment Text**

*The Waste Isolation Pilot Plant (WIPP) ~~Generator Site Waste Screening and Acceptance Audit~~ **Permittees' 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 sampling and analysis of wastes in accordance with the current WIPP Waste Analysis Plan (WAP) (Permit Attachment B), and 2) the information supplied by each site to satisfy the waste screening and acceptability requirements of Section B-4 of the WAP is being managed properly. The Permittees (meaning both the U.S. Department of Energy Carlsbad Area Office [DOE/CAO] and Westinghouse Waste Isolation Division [WID] personnel) will conduct these audits **and surveillances** at each site in accordance with a standard operating procedure (SOP). NMED personnel will participate in **may observe** these audits to validate the implementation of WAP requirements (Permit Attachment B) at each site. 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.** ~~Checklists used in the audit shall be tailored for each site to be audited, based on the approved site quality assurance project plan (QAPjP), which is the site-specific implementation of the WAP requirements (Permit Attachments B and B5). The checklists developed for each site shall include, at a minimum, contain the requirements specified in the appropriate checklists found in Tables B6-1 through B6-6 for the summary category groups undergoing audit.~~*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. References to standardized checklists should be deleted from the permit.

These checklists are not only unnecessary, but in addition, reliance on them may result in important checklist items for a particular audit being left out. The process envisioned in the permit application and ratified in this draft will result in the preparation and use of specific checklists tailored to the needs of each individual audit, which will provide the most efficient and effective method for ensuring that all audit goals are met.

Attachment B6 specifies that the lead auditor will "develop an audit plan and coordinate the preparation of an overall checklist to cover the scope of the audit...provide guidance on checklist development...Review individual auditor checklists to assure complete coverage of assigned scope, and approve the checklists." (Section B6-3, page B6-3, lines 4 to 11). This attachment also indicates that auditors and technical specialists, as part of their duties, may "prepare specific



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audit checklists to verify that the WAP Quality Assurance Objectives (QAO) are met for the areas being audited" and "obtain audit team leader approval of checklist." (Section B6-3, page B6-3, lines 26 to 28). In summary, the lead auditor will prepare specific checklists for each audit that will fully verify that the generator/storage site is complying with HWP requirements. Standardized checklists codified in the Permit are unnecessary to the auditing process. Furthermore, under this Second Draft NMED has the right to be present at audits and to approve the final audit report. This gives NMED significant oversight of, and input into, the entire audit process.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment B6-1, Page B6-1, Lines 2 to 26**

*The Waste Isolation Pilot Plant (WIPP) Permittees' 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 sampling and analysis of wastes in accordance with the current WIPP Waste Analysis Plan (WAP) (Permit Attachment B), and 2) the information supplied by each site to satisfy the waste screening and acceptability requirements of Section B-4 of the WAP is being managed properly. The Permittees will conduct these audits and surveillances at each site in accordance with a standard operating procedure (SOP). NMED personnel may observe these audits to validate the implementation of WAP requirements (Permit Attachment B) at each site. 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 B6-1 through B6-6 for the summary category groups undergoing audit.~~*

#### **2. Attachment B6-4, page B6-4, lines 19 to 31**

*The conduct of the audit shall commence with an entrance meeting, conducted by the audit team leader, with site or facility management. At this meeting, the audit objectives and scope, the specific areas to be audited, the processes or functions to be observed, and the site-participation required, including site interfaces, will be identified. The purpose of this meeting is to confirm the audit scope, discuss the audit sequence, establish channels of communication, and confirm the daily and exit meeting. Audits shall be performed using approved audit checklists ~~that include the checklists in Tables B6-1 to B6-6 for the summary category groups undergoing audit.~~ Consistency of evaluation shall be ensured before the audit through site QAPjP approval (see Permit Attachment B5). QAPjPs for each site shall incorporate the same requirements from the WAP. Objective evidence shall be examined (to the depth necessary) to determine if the identified activities, procedures, or QAOs are adequate and are being effectively implemented.*

#### **3. Attachment B6-4, page B6-4, Lines 32 to 34 and Page B6-5, Lines 1 to 6**

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*Site audits may not include all waste summary category groups, and thus some audit checklists or portions of checklists (Tables B6-1 through B6-6) may not be applicable to some sites (e.g., radiography is not used because the site chooses to visually examine all wastes). In these instances, the Permittees shall indicate nonapplicability in the appropriate checklist row, and justify the exclusion under the "Comment" column. In addition, in cases where discrepancies exist between the audit checklists in Tables B6-1 through B6-6 and the Permit, Permit requirements take precedence. The Permittees may add to the checklists as necessary to clarify Permit requirements, but any additions will be clearly designated on the checklists (i.e., redline the additions).*

**4. Attachment B6, Table B6-1, Beginning on Page B6-9**

Delete this table. [No markup provided]

**5. Attachment B6, Table B6-2, Beginning on Page B6-35**

Delete this table. [No markup provided]

**6. Attachment B6, Table B6-3, Beginning on Page B6-61**

Delete this table. [No markup provided]

**7. Attachment B6, Table B6-4, Beginning on Page B6-83**

Delete this table. [No markup provided]

**8. Attachment B6, Table B6-5, Beginning on Page B6-107**

Delete this table. [No markup provided]

**9. Attachment B6, Table B6-6, Beginning on Page B6-119**

Delete this table. [No markup provided]

**COMMENT 203: Attachment B6-2, Page B6-2, Lines 7 to 8**

**A. Draft Permit Module or Attachment Text**

- *Schedule audits, including initial audits prior to approval of waste stream profile forms*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

The requirement for initial audits should be deleted because it does not matter whether the audit is performed before or after approval of the waste stream profile forms. Both the audit and waste stream profile forms must be completed and approved before waste can be shipped and either can be done first.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B6-2, Page B6-2, Lines 7 to 8**

*~~Schedule audits, including initial audits prior to approval of waste stream profile forms~~*

**COMMENT 204: Attachment B6-4, Page B6-5, Lines 15 to 28**

**A. Draft Permit Module or Attachment Text**

*The site personnel will be given the opportunity to correct any **condition deficiency** that can be corrected during the audit period. Deficiencies and observations will be documented and included as part of the final audit report. Those items that **have been** can be resolved during the audit (isolated conditions **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 ~~so noted~~ **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 Permittees' CAR tracking system and tracked until closure. ~~Also, the Permittees will track RCRA-related items~~ **will be uniquely identified within the CAR tracking system so that they can be tracked separately** on a separate systematic tracking and action reporting system. **RCRA-related** CARs identified by the site during self-audits will ~~also be included in~~ **evaluated during the Permittees' audit report and surveillance program** and tracked in the Permittees' tracking systems.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

This section of the permit should be revised to reflect the fact that each site has a tracking system for tracking their own CARs. This tracking system is evaluated by the Permittee's as part of the audit and surveillance program.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B6-4, Page B6-5, Lines 15 to 28**

*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. 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 **Generator/Storage Sites** ~~Permittees'~~ CAR tracking system and tracked until closure. ~~RCRA-related items will be uniquely identified within the CAR tracking system so that they can be tracked separately.~~ RCRA-related CARs identified by the site during self-audits will be evaluated during the Permittees' audit and surveillance program and tracked in the **Generator/Storage Sites** ~~Permittees'~~ tracking systems.*

**COMMENT 205: Attachment B6-4, Page B6-5, Lines 29 to 43, and Page B6-6, Lines 1 to 2**

**A. Draft Permit Module or Attachment Text**

*When a deficiency is identified by the audit team, **the audit team member who identified the deficiency prepares the CAR.** ~~the condition shall be documented on a CAR by the audit team leader. The DOE/CAO Quality Assurance (QA) Manager and the National Transuranic Program (NTP) Team Leader, on behalf of The Permittees,~~ review the CAR, determine validity (assures that a requirement has **in fact** really been violated), classify the significance of the condition **deficiency**, assign a response due date, and issue the CAR to the site. The site reviews the CAR, evaluates the extent and cause of the deficiency, and provides a response to the Permittees indicating the remedial actions and actions taken to preclude recurrence. The Permittees review the response from the site and, if acceptable, communicate the acceptance to the site. The site completes remedial actions and actions to preclude recurrence. After all corrective actions have been completed, the Permittees, with NMED personnel as ~~participants~~ **observers**, shall schedule and perform a verification visit to assure that corrective actions have been completed and are effective. When all actions have been completed and verified as being effective, the CAR is closed by the ~~DOE/CAO QA Manager and the NTP Team Leader~~ **Permittees' manager responsible for quality assurance**. As part of the planning process for subsequent audits and surveillances, past deficiencies will be reviewed and the previous deficient activity or process is subject to reassessment.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

The above section should be modified to delete the requirement that NMED participate in the verification visit. Requiring that NMED participate, as an observer, in the closure of CARs will not further protect human health and the environment since the closure documentation must be provided to the NMED for approval.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B6-4, Page B6-5, Lines 29 to 43, and Page B6-6, Lines 1 to 2**

*When a deficiency is identified by the audit team, the audit team member who identified the deficiency prepares the CAR. The Permittees review the CAR, determine validity (assures that a requirement has in fact been violated), classify the*

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*significance of the deficiency, assign a response due date, and issue the CAR to the site. The site reviews the CAR, evaluates the extent and cause of the deficiency, and provides a response to the Permittees indicating the remedial actions and actions taken to preclude recurrence. The Permittees review the response from the site and, if acceptable, communicate the acceptance to the site. The site completes remedial actions and actions to preclude recurrence. ~~After all corrective actions have been completed, the Permittees, with NMED personnel as observers, shall schedule and perform a verification visit to assure that corrective actions have been completed and are effective.~~ When all actions have been completed and verified as being effective, the CAR is closed by the Permittees' manager responsible for quality assurance. As part of the planning process for subsequent audits and surveillances, past deficiencies will be reviewed and the previous deficient activity or process is subject to reassessment.*

**COMMENT 206: Attachment B6-4, Page B6-6, Lines 12 to 32**

**A. Draft Permit Module or Attachment Text**

*The ~~formal final~~ audit report will be prepared, approved, and issued to the site within thirty (30) days of the completion of the audit by the Permittees. NMED shall receive a copy of the ~~final~~ audit report upon issuance **for information purposes. A formal final audit report will be provided to NMED which will include WAP-related CAR resolution results and audit results that. The report will include, as a minimum, sections describing the scope, purpose, summary of deficiencies, and observations in narrative format, **completed audit checklists, audited procedures, and other applicable documents which provide evidence of WAP implementation. The report will also include** ~~as well~~ **as an identification of the organization audited, the dates of the audit, and the requested response date. NMED will make the final audit report available for public review and comment.** The audited site will respond to any deficiencies and observations within thirty (30) days after receipt of any CARs and indicate the corrective action taken or to be taken. If the corrective action has not been completed, the response must indicate the expected date the action will be completed. **CARs applicable to WAP requirements shall be resolved prior to waste shipment.** Subsequent audits or specific verifications, announced or unannounced, will determine if the corrective action has been satisfactorily implemented. Deficiencies, observations, and CARs will be tracked to completion according to established procedure(s). In addition, all audit items will be trended to determine if similar situations exist system wide. Trend reports will be issued as necessary to provide a "lessons learned" announcement to other sites who might benefit from program improvements implemented as a result of resolutions to the specific situations discovered at the performance of these audits.***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 67. The permit should delete reference to the trend reports. Trending and trend reports as required in the Second Draft will not add any value to the system because the processes at each site are generally unique to that site, a trending of audit findings will not be useful. Therefore, a separate "trend report" is unnecessary and should not be required. The proposed deletion of the public comment requirement was addressed above in Comment 1.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B6-4, Page B6-6, Lines 12 to 32**

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*The audit report will be prepared, approved, and issued to the site within thirty (30) days of the completion of the audit by the Permittees. NMED shall receive a copy of the audit report upon issuance for information purposes. A formal final audit report will be provided to NMED which will include WAP-related CAR resolution results and audit results that will include, as a minimum, sections describing the scope, purpose, summary of deficiencies, and observations in narrative format, completed audit checklists, audited procedures, and other applicable documents which provide evidence of WAP implementation. The report will also include an identification of the organization audited, the dates of the audit, and the requested response date. NMED will make the final audit report available for public review and comment. The audited site will respond to any deficiencies and observations within thirty (30) days after receipt of any CARs and indicate the corrective action taken or to be taken. If the corrective action has not been completed, the response must indicate the expected date the action will be completed. CARs applicable to WAP requirements shall be resolved prior to waste shipment **unless deemed approved as specified in permit condition II.C.2**. Subsequent audits or specific verifications, announced or unannounced, will determine if the corrective action has been satisfactorily implemented. Deficiencies, observations, and CARs will be tracked to completion according to established procedure(s). ~~In addition, all audit items will be trended to determine if similar situations exist system wide. Trend reports will be issued as necessary to provide a "lessons learned" announcement to other sites who might benefit from program improvements implemented as a result of resolutions to the specific situations discovered at the performance of these audits.~~*



**COMMENT 207: Attachment F-4d, Page F-23, Lines 26 to 35**

**A. Draft Permit Module or Attachment Text**

5. *In order to ensure that storm drains and/or sewers do not receive potentially hazardous runoff, dikes will be built around storm drains to control discharge as needed. Collected waste will be sampled and analyzed for hazardous constituents, before being discharged to evaporation ponds. There are two ponds south of the security fence, opposite the WHB Unit, that will collect drainage from the parking area. The rest of the site, inside the security fence, drains to the large pond to the west. Samples will be taken from these ponds, after the emergency has been abated, to determine any cleanup requirements. NMED will approve any procedures associated with the sampling and analysis of the ponds as specified in Permit Module I.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. The reference to NMED approval of procedures should be deleted.

The sampling plan is consistent with EPA's SW-846. Consequently, approval by the NMED is unnecessary and not mandated by the regulations. Furthermore, the plan is available for inspection at the facility.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment F-4d, Page F-23, Lines 26 to 35**

5. *In order to ensure that storm drains and/or sewers do not receive potentially hazardous runoff, dikes will be built around storm drains to control discharge as needed. Collected waste will be sampled and analyzed for hazardous constituents, before being discharged to evaporation ponds. There are two ponds south of the security fence, opposite the WHB Unit, that will collect drainage from the parking area. The rest of the site, inside the security fence, drains to the large pond to the west. Samples will be taken from these ponds, after the emergency has been abated, to determine any cleanup requirements. ~~NMED will approve any procedures associated with the sampling and analysis of the ponds.~~ *The Permittees will describe sampling and analysis plans in the incident report required by Module I of this permit.**

**COMMENT 208: Attachment H1, Page H1-2, Lines 22 to 41**

**A. Draft Permit Module or Attachment Text**

**Training (Type/Amount):**

- **General Employee Training (GET 19X)**
- **General Employee Training Refresher (GET 19XA)**
- **Waste Handling Operations Certification **Qualification** Card Signature Record (WH-01 Technicians or WH-02 Engineers) and Waste Handling Operations Guidebook (WH-GUIDE-1)**
- **Radworker II (RAD-201)**
- **Hazardous Waste Worker (HWW-101/102)**
- **Respiratory Protection (SAF-630/631)**
- **Hazardous Waste Responder (HWR-101, 101A)**
- **Hazardous Waste Transportation (HMT-102)**
- **Forklift Safety (EQP 402) (Once)**
- **Conduct of Shift Operations (OPS 115) (Once)**
- **Technical Safety Requirements (OPS 122) (Once)**
- **Incident Rigger (OPS 402) (Biennial)**
- **Procedure Guidelines (PDI 101) (Once)**
- **40-Hour Inexperienced Miner (SAF 501/502) (Annual)**
- **Subject Matter Expert/On the Job Trainer (TRG 293/298) (Biennial)**
- **Waste Handling Systems (STC-003) (Once)**

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

The final permit should reflect administrative changes within the Training Section. The qualification card for TRU Waste Handlers has been subdivided in order to more effectively use operating and training personnel. The course content has not changed.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment H1, Page H1-2, Lines 22 to 41**

**Training (Type/Amount):**

- **General Employee Training (GET 19X)**

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- *General Employee Training Refresher (GET 19XA)*
- *Waste Handling Operations Qualification Card Signature Record (~~WH-01 Technicians or WH-02 Engineers~~) and Waste Handling Operations Guidebook (~~WH-GUIDE-1~~) (~~WH-01A Backfill Technician, WH-01B Floor, Yard, and Emplacement Technician, and WH-01C Waste Handling Technician or WH-02 Waste Handling Engineers~~) and Waste Handling Operations Guidebook (WH-GUIDE-1)*
- *Radworker II (RAD-201)*
- *Hazardous Waste Worker (HWW-101/102)*
- *Respiratory Protection (SAF-630/631)*
- *Hazardous Waste Responder (HWR-101, 101A)*
- *Hazardous Waste Transportation (HMT-102)*
- *Forklift Safety (EQP 402) (Once)*
- *Conduct of Shift Operations (OPS 115) (Once)*
- *Technical Safety Requirements (OPS 122) (Once)*
- *Incident Rigger (OPS 402) (Biennial)*
- *Procedure Guidelines (PDI 101) (Once)*
- *40-Hour Inexperienced Miner (SAF 501/502) (Annual)*
- *Subject Matter Expert/On the Job Trainer (TRG 293/298) (Biennial)*
- *Waste Handling Systems (STC-003) (Once)*

**COMMENT 209: Attachment H1, Page H1-8, Lines 33 to 37**

**A. Draft Permit Module or Attachment Text**

**Requisite Skills, Experience and Education:**

*Academic or vocational high school graduate, or equivalent, with courses in chemistry, physics, geometry, or trigonometry, or equivalent, plus associated degree in radiation safety or health physics, or equivalent.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

The condition should be modified to reflect the fact that the requirement for an associates degree in a radiation field is a desirable but not mandatory for this entry-level position.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment H1, Page H1-8, Lines 33 to 37**

**Requisite Skills, Experience and Education:**

*Academic or vocational high school graduate, or equivalent, with courses in chemistry, physics, geometry, or trigonometry, or equivalent, ~~plus~~ associated degree in radiation safety or health physics **preferred**, ~~or equivalent~~.*

**COMMENT 210: Attachment H1, Page H1-11, Lines 10 to 12**

**A. Draft Permit Module or Attachment Text**

**Requisite Skills, Experience and Education:**

***B.A. in business or liberal arts, or equivalent.***

**B. Discussion of the Draft Permit Condition**

This is the resubmittal of a comment in the DOE Redline/Strikeout Version. This condition should be consistent with DOE requirements.

DOE Order 5480.20A lists minimum requirements for instructors. This Order does not require a college degree as long as the instructor possess knowledge in the area taught. This proposed change would bring this job description into compliance with the DOE Order.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment H1, Page H1-11, Lines 10 to 12**

**Requisite Skills, Experience and Education:**

***High School graduate with knowledge in areas of skills taught.***~~*B.A. in business or liberal arts, or equivalent.*~~

**COMMENT 211: Attachment H1, Page H1-13, Lines 1 to 38**

**A. Draft Permit Module or Attachment Text**

***RCRA Hazardous Waste Management Job Descriptions***

**Position Title:            *Emergency Services Technician***

**Duties:**

- ***Responds to hazardous waste spills in emergency situations***
- ***Provides emergency fire-response services***
- ***Conducts routine inspections and maintains all response equipment on site***
- ***Serves as incident commander***
- ***Directs emergency teams to control hazardous situations***

**Requisite Skills, Experience and Education:**

***Vocational or commercial high school graduate, or equivalent, plus additional training in emergency fire and medical response, or equivalent.***

**Training (Type/Amount):**

- ***General Employee Training (GET 19X)***
- ***General Employee Training Refresher (GET 19XA)***
- ***EST-Certification **Qualification** Card (EST-01)***
- ***Subject Matter Expert/On-The-Job Training (TRG-293/298)***
- ***Level II Trainer (TRG-300)***
- ***Hazardous Waste Worker (HWW-101/102)***
- ***Respiratory Protection (SAF-630/ 631)***
- ***Firefighter I (SAF-621)***
- ***Hazardous Waste Responder (HWR-101/101A)***
- ***Incident Command Structure (ERT 113) (Once)***
- ***Radiological Worker II (RAD 201) (Annual)***
- ***40-Hour Inexperienced Miner (SAF 501/502) (Annual)***
- ***Heated Environment/Confined Space (SAF 515/515A) (Annual)***
- ***Compressed Gas Cylinder Safety (SAF 619) (Once)***

***NOTE: The trainee may perform duties prior to certification **qualification** only for those evolutions and/or operations for which training has been completed.***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

This permit condition should be modified to reflect changes in EST responsibilities. Specifically the Level II Trainer (TRG-300) for EST should be deleted. In addition, Level II Trainer (TRG-300) is not required for ESTs because ESTs are no longer used to provide training to other staff.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment H1, Page H1-13, Lines 1 to 38**

***RCRA Hazardous Waste Management Job Descriptions***

**Position Title:**            *Emergency Services Technician*

**Duties:**

- *Responds to hazardous waste spills in emergency situations*
- *Provides emergency fire-response services*
- *Conducts routine inspections and maintains all response equipment on site*
- ~~*Serves as incident commander*~~
- *Directs emergency teams to control hazardous situations*

**Requisite Skills, Experience and Education:**

*Vocational or commercial high school graduate, or equivalent, plus additional training in emergency fire and medical response, or equivalent.*

**Training (Type/Amount):**

- *General Employee Training (GET 19X)*
- *General Employee Training Refresher (GET 19XA)*
- *EST Qualification Card (EST-01)*
- *Subject Matter Expert/On-The-Job Training (TRG-293/298)*
- *Level II Trainer (TRG-300)*
- *Hazardous Waste Worker (HWW-101/102)*
- *Respiratory Protection (SAF-630/ 631)*
- *Firefighter I (SAF-621)*
- *Hazardous Waste Responder (HWR-101/101A)*
- *Incident Command Structure (ERT 113) (Once)*
- *Radiological Worker II (RAD 201) (Annual)*
- *40-Hour Inexperienced Miner (SAF 501/502) (Annual)*
- *Heated Environment/Confined Space (SAF 515/515A) (Annual)*
- *Compressed Gas Cylinder Safety (SAF 619) (Once)*

**NOTE:** *The trainee may perform duties prior to qualification only for those evolutions and/or operations for which training has been completed.*

**DOEWID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

**COMMENT 212: Attachment H2, General**

**B. Discussion of the Draft Permit Condition**

There are numerous changes to the WIPP Training Plan in Attachment H2 that are being resubmitted with additional justification. For convenience, the proposed revisions and corresponding justifications are provided in the following table.

PAGE	LINE	CHANGE	JUSTIFICATION
H2- ii		<del>Equipment Tagout/Lockout Procedure, Authorizing Supervisor (OPS-01)H2-143</del> <del>Equipment Tagout/Lockout Procedure, Operations Technician (OPS-01T)H2-145</del>	These cards are used by U/G and Hoisting Ops to perform LO/TO. The responsibilities associated with the qualification card do not involve RCRA training requirements. The qualification cards should be deleted from H-2.
H2-15		PREREQUISITES: HWW-101, <del>current completion of SAF630/SAF631</del>	Respiratory Protection SAF 630/631 is not a prerequisite to the course.
H2-18	15	Mastery of the terminal objective will be demonstrated by scoring 80 percent or higher on the post course examination, satisfactory performance on the job performance measure for donning and doffing <del>level a PPE</del> <b>Personal Protective Equipment</b> , and successfully participate as a team in the final practical	Multiple levels of PPE are used, including Level A.
H2-22	6	Mastery of the terminal objective will be demonstrated by <del>scoring 80 percent or higher on the post course examination</del> ; satisfactory performance on the job performance measure for donning and doffing <del>level a PPE</del> <b>Personal Protective Equipment</b> , and successfully participate as a team in the final practical	Multiple levels of PPE are used, including Level A.
H2-29	1  9	COURSE :SAF-515 - Confined Space/ <del>Heated Environment</del>  SCOPE :The instructor will present hazards, personal protective equipment requirements, emergency action, and compliance with regulatory and WIPP procedures involving confined space/ <del>heated environment</del> . Students will learn emergency retrieval techniques for removal of personnel from confined spaces	Heated Room Training is no longer needed for routine conditions since all heated rooms in the underground have been deactivated. If required it is now offered as a separate course - HEA-120.
H2-30	1  2  4  6	COURSE: SAF-515A -Confined Space/ <del>Heated Environment</del> -Refresher  DURATION: <del>6</del> 4 Hours  PREREQUISITES: SAF-515 - Confined Space Initial Training SAF-630/ <del>631</del> - Respiratory Protection Current OPS-08 Qualification Card  SCOPE: The instructor will present hazards, personal protective equipment requirements, emergency action, and compliance with regulatory and WIPP procedures involving confined space/ <del>heated environment</del> . The course will also review several confined space fatalities lessons	Heated Room Training is no longer needed for routine conditions since all heated rooms in the underground have been deactivated. If required it is now offered as a separate course - HEA-120.  The duration of the refresher is now 4 hours.  SAF-631 is required with SAF-630. It needs to be identified on the course perquisites.  Heated Room Training is no longer needed for routine conditions since all heated rooms in the underground have been deactivated. If required it is now offered as a separate course - HEA-120.



**DOE/WD COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

PAGE	LINE	CHANGE	JUSTIFICATION
		learned.	
H2-40	3	PREREQUISITES :Written permission of the Radiological Control Manager None  Respiratory Protection (SAF 630/SAF 631) Radiological Worker I (RAD 101)	Written permission of the RadCon Manager is to be retained.  Rad 201 is a stand alone course. Knowledge from the prerequisite courses is not required.
H2-43	18	d. SME Certification <del>Qualification</del> Board	Certification boards are not used per DOE Order 5480.20A and WP 14 TR.01.
H2-45	7	SCOPE: The Instructor will present the student with the information and skills necessary to develop and perform classroom instruction based on DOE guideline "Good Practice For Training And Qualification of Instructors" DOE-NE-STB-100-94 <del>HDBK-1001-96</del>  4. Training sections <del>settings</del>	The scope has an outdated DOE Standard reference. It should state the new standard which is DOE-HDBK-1001-06.  Typo... It should say Training Setting.
H2-53	33	d. Guidelines for personal conference 1. Planning the conference a. <del>Presenting alternatives</del> <del>State the problem</del> b. <del>Selecting the best solution from alternatives and develop the action plan</del> Describe your reaction to the problem c. <del>Follow up review dates</del> Ask for the trainee view of the situation d. Ask the trainee for recommendations e. Present your alternatives f. Select the best solution form alternatives and develop an action plan g. Set specific follow up review dates	This change reflects current information obtained from the DOE-HDBK-1001-06 relating to Instructor Training.
H2-56	4	SCOPE: The instructor will provide basic life support training <del>CPR</del> including one-rescuer CPR and the Heimlich maneuver <del>and first aid techniques.</del>	This revision makes the scope statement consistent with American Heart Association guidelines
H2-59	3	PREREQUISITES: <del>The instructor will provide refresher training Basic CPR (one-rescuer) and basic first aid techniques</del> MED-101  SCOPE :The instructor will provide refresher training basic CPR (one-rescuer) and basic first aid techniques.	The editorial makes the scope statement consistent with MED-101
H2-60	5	SCOPE :Instruction meeting 49 CFR 172 Subpart H provided in a modular format. This course covers: awareness, the hazards material table, packaging, marking, labeling, placarding, material separation and segregation, special or unique transportation moves, safety, and site specific transportation issues.	Scope should reference 49 CFR 172 Subpart H to ensure regulatory correctness.
H2-70	8	Mastery of the terminal objective will be demonstrated by satisfactory performance on all practical sessions and by <del>averaging</del> scoring 80 percent or higher on the daily exams with no score less than 70 percent <del>with post course examination.</del>	The lesson plan should reflect 30 CFR (MSHA) requirements.

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PAGE	LINE	CHANGE	JUSTIFICATION
H2-71	22	4.Reporting of Hazards/ <del>Lines of Authority</del> -5 1hour	The lesson plan should reflect 30 CFR (MSHA) requirements.
	36	5. Lines of Authority a. WIPP organization - .5 hour 1. Department of Energy 2. Westinghouse Electric 3. Management of the underground b. Hazard reporting lines of authority 1. General safety issues a. Organization b. Reporting procedures 2. Imminent danger issues c. Summary	
H2-72	7	6.5. Self-Rescuer/ <del>Respirators</del> a. Purpose 1 hour b. Service life c. Inspection/ <del>Color code</del> d. Mine operator quarterly inspection e. The self-rescuer 1. Features 2. The assembly f. Operation g. Demonstration h. Practical application i. Summary	The lesson plan should reflect 30 CFR (MSHA) requirements.
	18	7. Respirators -5 hour a. Respiratory protection 1. The WIPP program 2. Requirements b. Lung capacity testing c. Physical examination d. Respiratory fit testing 1. Fitting of respirator 2. Selection of respirator e. Types of respirators 1. Dust mask 2. Cartridge 3. Supplied air f. Training g. Hazards h. Summary	
	33	8.6. Entering and Leaving the Mine 1 hour a. Access Requirements 1. Miner training b. <del>Certification</del> Qualification period c. Lamproom location 1. Miner color code 2. 1 Proper safety equipment 3. 2 Sign-in procedure 4. 3 Brass tag d. Summary	
	1	9.7. Transportation	
H2-73	18	<del>40: 9.</del> Communications	
	34	<del>44: 10</del> Mine Map	
H2-74	6	3. South non-radiation	

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PAGE	LINE	CHANGE	JUSTIFICATION
	12	<p>monitoring <del>construction</del> area</p> <p>4. South radiation monitoring <del>monitoring</del> disposal area</p> <p>45. 11. Ventilation 1.5 hours<sup>1</sup>.</p> <p>a. Ventilation General requirements</p> <p>b. Intake volume</p> <p>c. Intake points</p> <p>1. Air Intake Shaft</p> <p>2. Salt Handling Shaft</p> <p>3. Waste Shaft</p> <p>d. Exhaust volume</p> <p>e. Primary air-flow routes</p> <p>1. North mine area air flow (intake)</p> <p>2. North mine area air flow (exhaust)</p> <p>3. South mine area air flow (intake)</p> <p>4. South mine area air flow (exhaust)</p> <p>f. Air quality</p> <p>g. Air flow balancing</p> <p>1. The plan</p> <p>2. Adjustments</p> <p>3. Unapproved adjustments</p> <p>h. Escapeways</p> <p>i. Summary</p>	<p>The lesson plan should reflect 30 CFR (MSHA) requirements as well as the changes in mine configuration (experimental areas, ventilation).</p>
	25	<p>43. Barricades/Refuge 1 hour</p> <p>_____ a. Define a barricade</p> <p>_____ b. Function of barricades</p> <p>_____ c. Permanent barricade</p> <p>_____ d. Temporary barricades</p> <p>_____ e. Methods of erecting a temporary barricade</p> <p>_____ f. Barricades in relationship with WIPP design</p>	<p>The lesson plan should reflect 30 CFR (MSHA) requirements.</p>
	34	<p>_____ g. Summary</p> <p>44. 13 Ground Control</p>	
H2-75	10	<p>45. Ventilation 1.5 hours<sup>1</sup>.</p> <p>_____ a. Ventilation General requirements</p> <p>_____ b. Intake volume</p> <p>_____ c. Intake points</p> <p>_____ 1. Air Intake Shaft</p> <p>_____ 2. Salt Handling Shaft</p> <p>_____ 3. Waste Shaft</p> <p>_____ d. Exhaust volume</p> <p>_____ e. Primary air-flow routes</p> <p>_____ 1. North mine area air flow (intake)</p> <p>_____ 2. North mine area air flow (exhaust)</p> <p>_____ 3. South mine area air flow (intake)</p> <p>_____ 4. South mine area air flow (exhaust)</p> <p>_____ f. Air quality</p> <p>_____ g. Air flow balancing</p> <p>_____ 1. The plan</p> <p>_____ 2. Adjustments</p>	<p>The lesson plan should reflect 30 CFR (MSHA) requirements as well as the changes in mine configuration (experimental areas, ventilation).</p>

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PAGE	LINE	CHANGE	JUSTIFICATION
H2-76	1	<p> <del>3. Unapproved adjustments</del>  <del>h. Escapeways</del>  <del>i. Summary</del> </p> <p> <b>46. Health 1-hour</b>  <del>a. Air quality</del> <ol style="list-style-type: none"> <li>1. Dust</li> <li>2. Other vapors</li> <li>3. Personal protective equipment</li> </ol> </p> <p> <b>b. Noise</b> <ol style="list-style-type: none"> <li>1. Acceptable working levels                             <ol style="list-style-type: none"> <li>a. 8-hour shift</li> <li>b. Short term</li> </ol> </li> <li>2. Protection against damage                             <ol style="list-style-type: none"> <li>a. In-ear protection</li> <li>b. Over-the-ear protection</li> </ol> </li> </ol> </p> <p> <b>c. Chemicals</b> <ol style="list-style-type: none"> <li>1. Use</li> <li>2. Personal protective equipment</li> <li>3. Training</li> <li>4. Health effects</li> <li>5. Pre-event planning</li> </ol> </p> <p> <del>d. Potable water</del>  <del>e. Toilet facilities</del> <ol style="list-style-type: none"> <li>1. Chemical toilets</li> <li>f. Waste receptacles                             <ol style="list-style-type: none"> <li>1. General</li> </ol> </li> <li>g. Food consumption                             <ol style="list-style-type: none"> <li>1. Restriction</li> </ol> </li> <li>h. Radiation exposure                             <ol style="list-style-type: none"> <li>1. ALARA</li> <li>2. External</li> <li>3. Internal</li> <li>4. Through wounds</li> </ol> </li> <li>i. Summary</li> </ol> </p> <p> <del>14. Hazard Recognition</del>  <del>4 6 hour</del> </p>	
H2-77	10	<p> <del>46. 15. Health 1 hour</del> <ol style="list-style-type: none"> <li>a. Air quality                             <ol style="list-style-type: none"> <li>1. Dust</li> <li>2. Other vapors</li> <li>3. Personal protective equipment</li> </ol> </li> <li>b. Noise                             <ol style="list-style-type: none"> <li>1 Acceptable working levels                                     <ol style="list-style-type: none"> <li>a. 8 hour shift</li> <li>b. Short term</li> </ol> </li> <li>2. Protection against damage                                     <ol style="list-style-type: none"> <li>a. In-ear protection</li> <li>b. Over-the-ear protection</li> </ol> </li> </ol> </li> <li>c. Chemicals                             <ol style="list-style-type: none"> <li>1. Use</li> <li>2. Personal protective equipment</li> <li>3. Training</li> <li>4. Health effects</li> </ol> </li> </ol> </p>	<p>The lesson plan should reflect 30 CFR (MSHA) requirements.</p>

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PAGE	LINE	CHANGE	JUSTIFICATION
		<ul style="list-style-type: none"> <li>5. Pre-event planning</li> <li>d. Potable water</li> <li>e. Toilet facilities                             <ul style="list-style-type: none"> <li>1. Chemical toilets</li> </ul> </li> <li>f. Waste receptacles                             <ul style="list-style-type: none"> <li>1. General</li> </ul> </li> <li>g. Food consumption                             <ul style="list-style-type: none"> <li>1. Restriction</li> </ul> </li> <li>h. Radiation exposure                             <ul style="list-style-type: none"> <li>1. ALARA</li> <li>2. External</li> <li>3. Internal</li> <li>4. Through wounds</li> </ul> </li> <li>i. Summary</li> </ul>	
	10	<p><del>18. Electrical 1.5 hours</del></p> <ul style="list-style-type: none"> <li><del>a. Underground supply voltage</del></li> <li><del>b. Circuit protection of electrical equipment and supply lines</del></li> <li><del>c. Location of primary substations and switch gear</del></li> <li><del>d. Primary line separation</del></li> <li><del>e. Electrical equipment inspection                             <ul style="list-style-type: none"> <li>1. Preoperational inspections</li> <li>2. Post-operational inspections</li> </ul> </del></li> <li><del>f. Handling of live cables</del></li> <li><del>g. Lock-out/Tag-out                             <ul style="list-style-type: none"> <li>1. Underground procedure identification</li> <li>2. Definitions</li> <li>3. Procedure highlights</li> </ul> </del></li> <li><del>h. Summary</del></li> </ul>	
	26	<p><del>19. Fire Fighting 1 hour</del></p> <ul style="list-style-type: none"> <li><del>a. Define fire</del></li> <li><del>b. Fire behavior</del></li> <li><del>c. Classes of fire                             <ul style="list-style-type: none"> <li>1. Glass "A"</li> <li>2. Glass "B"</li> <li>3. Glass "C"</li> <li>4. Glass "D"</li> </ul> </del></li> <li><del>d. Introduction to fire extinguisher or systems                             <ul style="list-style-type: none"> <li>1. Fixed</li> <li>2. Portable</li> </ul> </del></li> <li><del>e. Fire fighting principles for portable extinguisher</del></li> <li><del>f. Fixed system activation</del></li> <li><del>g. Summary</del></li> </ul>	
	41	<p><del>20. Job Task Safety 1 hour</del></p> <ul style="list-style-type: none"> <li><del>a. Job task                             <ul style="list-style-type: none"> <li>1. General task</li> <li>2. General task description</li> </ul> </del></li> <li><del>a. Miner operator</del></li> <li><del>b. Miner operator helper</del></li> <li><del>c. Haul truck operator</del></li> </ul>	
H2-78	1		
	8	<p><del>21. MED-101 (including exam) 8 hours</del></p>	
	10	<p><del>22. Underground Tour 8 hours</del></p> <ul style="list-style-type: none"> <li><del>a. Complete tour of the underground</del></li> </ul>	

**DOE/WID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

PAGE	LINE	CHANGE	JUSTIFICATION
		<del>_____ b. OJT session for ground control (practical demonstration)</del>	
H2-80	14	3. South <del>non-storage</del> <b>construction</b> air flow (intake) 4. South <del>non-storage</del> <b>construction</b> air flow (exhaust) 5. South <del>storage</del> <b>disposal</b> area air flow (intake)	The lesson plan should reflect the changes in mine configuration (experimental areas, ventilation).
H2-81	24	a. <del>Definition</del> <del>b a. Event happenings</del> <del>e b. Changing events</del> <del>d c. Pre-event recognition</del> <del>e d. Lessons learned</del> <del>f e. Summary</del>	The lesson plan should reflect 30 CFR (MSHA) requirements.
H2-82	1	a. <del>Bleeding</del> <b>Basic Principles</b> 1. <del>Arterial</del> <del>_____ 2. Venous</del> <del>_____ 3. Capillary</del> b. <del>Control bleeding</del> <del>_____ 1. Direct pressure</del> <del>_____ 2. Elevation</del> <del>_____ 3. Pressure dressing</del> <del>_____ 4. Pressure points</del> <del>_____ 5. Tourniquet</del> <del>_____ c. Summary</del>	The lesson plan should reflect 30 CFR (MSHA) requirements.
H2-83	9	OBJECTIVES: Upon completion of this course, the student will be able to perform incidental rigger duties in compliance with the DOE <del>Standard</del> <b>Standard</b> Hoisting and Rigging Manual <del>DOE-STD-1090-96</del> .	The reference stated in the objective should be updated to reflect current DOE Standard (DOE-STD-1090-96).
H2-85	8	OBJECTIVES: Upon completion of this course, the student will be able to perform their job in accordance with Operations Department "Conduct of Operations" <del>DIOPS-003</del> <b>WPO4-CO</b> .	The reference stated in the objective has changed to WP 04-CO which is a current site procedure.
H2-86	8	<del>5. Management training</del> <del>6 5. Planning for safety</del>	The management Training identified has been incorporated into a separate WID site policy and training program.
H2-89	12	OBJECTIVES: Upon completion of this course, the student will be able to perform root cause analysis in accordance with DOE <del>Order 5000-3B</del> <b>Order 232.1</b> .	The DOE Order has been revised and is DOE Order 232.1.
H2-94	6	OBJECTIVES: Upon completion of this course, the student will be able to state the responsibilities and duties of the Office Warden, in accordance with <del>WIPP Procedure WP-12-ER4907</del> <b>established guidelines, policies and regulations.</b>	The referenced procedure WP 12-ER4907 does not identify pagers, plectrons, and Bloodborne Pathogens Kits as part of the Office Warden responsibilities. General Employee Training addresses Bloodborne Pathogen Kits and their purpose.
	15	<del>_____ d. Describe operation of pagers and plectrons</del> <del>_____ e d. Describe purpose of assembly areas</del> <del>_____ f. State purpose of Bloodborne Pathogen kits</del>	
	20	2. Presentation <del>7 90 minutes</del>	
	32	<del>_____ d. Operation of pagers and plectrons</del> <del>_____ ed. Assembly areas/Staging Areas</del>	
	37	<del>_____ f. Bloodborne Pathogen kit</del>	

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PAGE	LINE	CHANGE	JUSTIFICATION
		<del>1. Purpose</del> <del>2. Office Warden responsibilities</del>	
H2-95	1	<del>3. Practical Exercise</del> <del>20 minutes</del> <b>4 3. Review and Exam</b>	The practical is no longer required for this training.
H2-103	9	REFRESHER: Training is conducted <del>8</del> <b>4</b> hours monthly	30 CFR (MSHA) guidelines specifies 4 hours monthly for Mine Rescue refresher.
H2-113	2	<del>2. Dosimetry (CL2.04) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
	28	<del>3. Contamination Control (CL2.05) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
H2-114	1	<del>4. Airborne Sampling Program/Methods (CL2.06) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
	19	<del>5. Airborne Sampling Laboratory (CL2.06A) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
H2-115	1	<del>6. Radiological Source Control (CL2.08) 4 hours</del> <del>Prerequisites - CL1.01 through CL1.13.</del>	Delete "prerequisite" because it has already been addressed in item 1.
	6	<del>e b. Outline - Introduction</del> <del>•DOE Radiological Controls Manual N41.1 requirements for radioactive sources</del>	The DOE Rad Con Manual has been renumbered to N4.1.1. The statement should say . . . N41.1 requirements for radioactive sources.
	7		
	15	<del>7. Access Control and Work Area Setup (CL2.10) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
	31	<ul style="list-style-type: none"> <li>•WIPP postings, <del>requests</del> <b>requirements</b> for postings/barriers, and entry requests for various radiological areas</li> </ul>	This is a typo; line 31 should say "requirements for posting/barriers".
H2-116	1	<del>8. Radiological Work Coverage (CL2.11) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
	18	<ul style="list-style-type: none"> <li>•DOE RCM <del>WP 12-5</del> reasons to stop radiological work activities</li> </ul>	The WIPP Radiation Safety Manual should be reference in this statement which gives the guidance for stopping radiological work activities. Delete "prerequisite" because it has already been addressed in item 1.
	20		Delete "prerequisite" because it has already been addressed in item 1.
H2-117	1	<del>9. Shipment/Receipt of Radioactive Material (CL2.12) 4 hours</del> <del>a. Prerequisites - CL1.01 through CL1.13</del>	Delete "prerequisite" because it has already been addressed in item 1.
	28	<del>10. Radiological Incidents and Emergencies (CL2.13) 4 hours</del>	Delete "prerequisite" because it has already been

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PAGE	LINE	CHANGE	JUSTIFICATION
H2-118	1	<del>_____ a Prerequisites - CL1.01 through CL1.13</del>	addressed in item 1.
		11. Personnel Decontamination (CL2.14) 4 hours	Delete "prerequisite" because it has already been addressed in item 1.
		<del>_____ a. Prerequisites - CL1.01 through CL1.13</del>	
	15	12. Radiological Considerations for First Aid (CL2.15) 4 hours	Delete "prerequisite" because it has already been addressed in item 1.
		<del>_____ a. Prerequisites - CL1.01 through CL1.13</del>	
	29	13 Radiation Survey Instrumentation (CL2.16) 4 hours	Laboratory courses are taught through on the job training and not as an academic course.
		<del>_____ a. Prerequisites - CL1.01 through CL1.13</del>	
		<del>14. Radiation Survey Instrumentation Laboratory (CL2.16A) - 4 hours</del>	
		<del>_____ a. Prerequisites - CL1.01 through CL1.13</del>	
		<del>_____ b. Scope - This training laboratory provides the initial on-the-job training for the job performance measures (JPMs) pertaining to the radiation survey instruments used at the WIPP.</del>	
		<del>_____ e. Outline - Introduction</del>	
		<del>_____ Operating WIPP-Geiger-mueller dose rate meters</del>	
H2-119	1	<del>_____ Operating WIPP ion chamber dose rate meters</del>	Delete "prerequisite" because it has already been addressed in item 1.
		<del>_____ Operating WIPP digital alarming dosimeters</del>	
	18	15. Contamination Monitoring Instrumentation (CL2.17) 4 hours	Laboratory courses are taught through on the job training and not as an academic course.
		<del>_____ a. Prerequisites - CL1.01 through CL1.13</del>	
		<del>16. Contamination Monitoring Instrumentation Laboratory (CL2.17A) - 4 hours</del>	
		<del>_____ a. Prerequisites - CL1.01 through CL1.13</del>	
		<del>_____ b. Scope - This training laboratory provides the initial on-the-job training for the job performance measures (JPMs) pertaining to the contamination monitoring instruments used at the WIPP.</del>	
		<del>_____ c. Outline - Introduction</del>	
		<del>_____ Operating and performance checks of WIPP alpha contamination detection instruments</del>	
		<del>_____ Operating and performance checks of WIPP beta contamination detection instruments</del>	
H2-120	1	<del>_____ Operability checks of WIPP personnel contamination monitors</del>	Delete "prerequisite" because it has already been addressed in item 1.
	16	<del>_____ Performing personnel frisk with WIPP personnel contamination monitors</del>	





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PAGE	LINE	CHANGE	JUSTIFICATION
	8	SCOPE: The CH Waste Handling Technician <del>Certification</del> <b>Qualification</b> Cards (WH-01A <b>Backfill Technician</b> , WH-01B Floor, Yard, and Emplacement Technician, and WH-01C Waste Handling Technician) and CH Waste Handling Engineer Qualification Card (WH-02) <b>Waste Handling Operations Qualification Card Guide Book (WH-GUIDE-1)</b> provide the minimum knowledge and competency requirements for qualification. <del>The requirements of the applicable qualification must be completed by the candidate prior to performing these duties without direct supervision.</del>	
	32	<del>Precautions and limiting conditions of operation administrative requirements and technical specification requirements.</del>	
H2-127		1. Academics Training: There are 13 lessons associated with the core academics program and 15 lessons <del>and two labs</del> associated with the site academics program.	Delete laboratory courses from academic training because these are now provided as on the job training.
H2-128	3	PREREQUISITES: The candidate must be <del>currently certified</del> <b>current</b> in CPR and possess an EMT-I License.	WIPP does not certify personnel in CPR training according to DOE Order 5480.20A. The statement should say "the candidate must be current in CPR training and possess an EMT I License."
H2-144	3	PREREQUISITES: HWW-101 - Hazardous Waste Worker/ <b>Hazardous Waste Responder</b>	Correct the title of the course.
H2-145	All	Delete this training course in its entirety.	This training is now provided as an integral part of the courses where equipment tagout/lockout is needed and not as a separate course.
H2-147	All	Delete this training course in its entirety	This training is now provided as an integral part of the courses where equipment tagout/lockout is needed and not as a separate course.

**COMMENT 213: Attachment L-4c(2)(ii), Page L-21, Lines 12 to 23**

**A. Draft Permit Module or Attachment Text**

*Serial sampling is the collection of sequential samples for the purpose of determining when the ground-water chemistry stabilizes and is therefore representative of undisturbed ground water. The Permittees will consider a serial sample representative of undisturbed ground water when the majority of field indicator parameter measurements have stabilized within  $\pm 5$  percent of the average of analytical results for the field indicator parameter from the background ground-water quality for each DMP well. Nonstabilization of one or two field indicator parameters attributable to matrix interferences, instrument drift, or other unforeseen reasons will not preclude the collection of final samples, provided the volume of purged water exceeds three well bore volumes. The Permittees will report, in the operating record, any final samples collected when field indicator parameters were not stabilized, and will provide an explanation of why the sample was collected when field indicator parameters were not stabilized.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 116. This permit requirement should be deleted because serial sampling is unnecessary for the new wells.

Serial sampling protocols were intended to overcome known well construction deficiencies of the original WIPP wells. Since that time, new wells have been drilled that do not have the construction deficiencies of the older wells. Serial sampling protocols were carried over to the new wells as a precaution to evaluate the effectiveness of serial sampling of the older wells and to establish like-for-like sampling techniques in the event that older groundwater quality data were needed to be compared to the data base collected in the new wells. Serial sampling is not needed as a routine practice with the DMP wells and has no specific regulatory purpose.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment L-4c(2)(ii), Page L-21, Lines 12 to 23**

~~L-4c(2)(ii) Serial Samples~~

~~Serial sampling is the collection of sequential samples for the purpose of determining when the ground-water chemistry stabilizes and is therefore representative of undisturbed ground water. The Permittees will consider a serial sample representative of undisturbed ground water when the majority of field indicator parameter~~

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~~measurements have stabilized within  $\pm 5$  percent of the average of analytical results for the field indicator parameter from the background ground-water quality for each DMP well. Nonstabilization of one or two field indicator parameters attributable to matrix interferences, instrument drift, or other unforeseen reasons will not preclude the collection of final samples, provided the volume of purged water exceeds three well bore volumes. The Permittees will report, in the operating record, any final samples collected when field indicator parameters were not stabilized, and will provide an explanation of why the sample was collected when field indicator parameters were not stabilized.~~

**2. Attachment L-4c(2)(ii), Page L-23, Line 13**

~~During the first two years of DMP well serial sampling, the first sample will be analyzed as soon as possible after the pump is turned on and daily thereafter for a period of four days or until the field indicator parameters (chloride, divalent cations, alkalinity, and iron) stabilize. Eh, pH, and SG will be continually monitored by using a flow cell with ion-specific electrodes and a real-time readout. When detection monitoring begins, the serial sampling process may be modified and the decision to collect final samples would then be based on the number of well bore volumes purged and results of the analysis of chloride, temperature, specific gravity, pH, Eh, and SG. Removal of serial sampling from the DMP will be accomplished through a permit modification and a modification to this plan.~~

**COMMENT 214: Attachment L, Table L-3, Page L-50, Lines 1 to 16**

**A. Draft Permit Module or Attachment Text**

**TABLE L-3  
ANALYTICAL PARAMETER LIST FOR THE  
WIPP DETECTION MONITORING PROGRAM**

Background Ground-water Quality	Operational Detection Monitoring Ground-water Quality
<p><u>Indicator Parameters</u> pH, SC, TOC, TOH, TDS, TSS, density</p> <p><u>Parameters Listed in</u> 20 NMAC 4.1.500 (incorporating 40 CFR §264) Appendix IX, Calcium, Magnesium, Potassium</p> <p><u>Field Analyses</u> pH, SC, temperature, chloride, Eh, alkalinity, total Fe, specific gravity</p>	<p><u>Indicator Parameters</u> pH, SC, TOC, TOH, TDS, TSS, density</p> <p><u>Organic Parameters</u> <del>Chloroform</del> <del>1,2-dichloroethane</del> Carbon tetrachloride Chlorobenzene 1,1-dichloroethylene 1,1-dichloroethane Methylene chloride 1,1,2,2-tetrachloroethane Toluene 1,1,1-trichloroethane Cresols 1,2-dichlorobenzene      cis-1,2-dichloroethylene 2,4-dinitrophenol      2,4-dinitrotoluene</p> <hr/> <p><del>Formaldehyde</del>      Hydrazine Hexachloroethane      Hexachlorobenzene Isobutanol      Methyl ethyl ketone <del>Methanol</del>      Pentachlorophenol Pyridine      Tetrachloroethylene 1,1,2-Trichloroethane      Trichloroethylene Trichlorofluoromethane      Xylenes Nitrobenzene      Vinyl Chloride</p> <p><u>Metals</u> TCLP metals: Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver</p> <p>Antimony Beryllium      Calcium Nickel      Magnesium Thallium      Potassium</p> <hr/> <p><del>Radium</del> Gross Alpha Gross Beta</p> <p><u>Field Analyses</u> pH, SC, temperature, chloride, Eh, alkalinity, total Fe, specific gravity</p>

Note: Because of the lack of sophisticated weights and measures equipment available for field density assessment, field density evaluations are expressed in terms of specific gravity, which is a unitless measure.

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of Comment 109 with additional discussion.

Table L-3 & Table V.D in Module V should be consistent with each other. The title "TCLP metals" should be changed to "Metals" since TCLP is not performed on water samples. In addition, gross alpha and beta should be removed from the list of analytes since they are not RCRA constituents and they are not measured on WIPP DMP groundwater samples.

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**C. Proposed Revisions to the Draft Permit**

**1. Attachment L, Table L-3, Page L-50, Lines 1 to 16**

**TABLE L-3  
ANALYTICAL PARAMETER LIST FOR THE  
WIPP DETECTION MONITORING PROGRAM**

<p>Background Ground-water Quality</p> <p><u>Indicator Parameters</u> pH, SC, TOC, TOH, TDS, TSS, density</p> <p><u>Parameters Listed in</u> 20 NMAC 4.1.500 (incorporating 40CFR §264) Appendix IX, Calcium, Magnesium, Potassium</p> <p><u>Field Analyses</u> pH, SC, temperature, chloride, Eh, alkalinity, total Fe, specific gravity</p>	<p>Operational Detection Monitoring Ground-water Quality</p> <p><u>Indicator Parameters</u> pH, SC, TOC, TOH, TDS, TSS, density</p> <p><u>Organic Parameters</u></p> <table border="0"> <tr><td>Chloroform</td><td>1,2-dichloroethane</td></tr> <tr><td>Carbon tetrachloride</td><td>Chlorobenzene</td></tr> <tr><td>1,1-dichloroethylene</td><td>1,1-dichloroethane</td></tr> <tr><td>Methylene chloride</td><td>1,1,2,2-tetrachloroethane</td></tr> <tr><td>Toluene</td><td>1,1,1-trichloroethane</td></tr> <tr><td>Cresols</td><td>1,4-dichlorobenzene</td></tr> <tr><td>1,2-dichlorobenzene</td><td>cis-1,2-dichloroethylene</td></tr> <tr><td>2,4-dinitrophenol</td><td>2,4-dinitrotoluene</td></tr> <tr><td>Hexachloroethane</td><td>Hexachlorobenzene</td></tr> <tr><td>Isobutanol</td><td>Methyl ethyl ketone</td></tr> <tr><td>Pentachlorophenol</td><td>Pyridine</td></tr> <tr><td>Tetrachloroethylene</td><td>1,1,2 Trichloroethane</td></tr> <tr><td>Trichloroethylene</td><td>Trichlorofluoromethane</td></tr> <tr><td>Xylenes</td><td>Nitrobenzene</td></tr> <tr><td>Vinyl Chloride</td><td></td></tr> </table> <p><u>Metals</u> <del>FCLP</del>-metals:</p> <table border="0"> <tr><td>Arsenic</td><td>Barium</td></tr> <tr><td>Cadmium</td><td>Chromium</td></tr> <tr><td>Lead</td><td>Mercury</td></tr> <tr><td>Seleium</td><td>Silver</td></tr> <tr><td>Antimony</td><td>Calcium</td></tr> <tr><td>Beryllium</td><td>Magnesium</td></tr> <tr><td>Nickel</td><td>Potassium</td></tr> <tr><td>Thallium</td><td></td></tr> </table> <p><u>Gross Alpha</u></p> <p><u>Gross Beta</u></p> <p><u>Field Analyses</u> pH, SC, temperature, chloride, Eh, alkalinity, total Fe, specific gravity</p>	Chloroform	1,2-dichloroethane	Carbon tetrachloride	Chlorobenzene	1,1-dichloroethylene	1,1-dichloroethane	Methylene chloride	1,1,2,2-tetrachloroethane	Toluene	1,1,1-trichloroethane	Cresols	1,4-dichlorobenzene	1,2-dichlorobenzene	cis-1,2-dichloroethylene	2,4-dinitrophenol	2,4-dinitrotoluene	Hexachloroethane	Hexachlorobenzene	Isobutanol	Methyl ethyl ketone	Pentachlorophenol	Pyridine	Tetrachloroethylene	1,1,2 Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Xylenes	Nitrobenzene	Vinyl Chloride		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Seleium	Silver	Antimony	Calcium	Beryllium	Magnesium	Nickel	Potassium	Thallium	
Chloroform	1,2-dichloroethane																																														
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Nickel	Potassium																																														
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Note: Because of the lack of sophisticated weights and measures equipment available for field density assessment, field density evaluations are expressed in terms of specific gravity, which is a unitless measure.

**2. Module V.D, Page V-2**

<b>Table V.D - Parameter or Constituent</b>	
<i>pH</i>	<i>Specific conductance</i>
<i>Total organic carbon (TOC)</i>	<i>Total organic halogen (TOH)</i>
<i>Total dissolved solids (TDS)</i>	<i>Total suspended solids (TSS)</i>
<i>Density</i>	<i>Calcium</i>
<i>Magnesium</i>	<i>Potassium</i>
<i>Chloride</i>	<i>Iron (Total Fe)</i>
<i>Chloroform</i>	<i>1,2-dichloroethane</i>
<i>Carbon tetrachloride</i>	<i>Chlorobenzene</i>
<i>1,1-dichloroethylene</i>	<i>1,1-dichloroethane</i>

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<i>Table V.D - Parameter or Constituent</i>	
<i>Methylene chloride</i>	<i>1,1,2,2-tetrachloroethane</i>
<i>Toluene</i>	<i>1,1,1-trichloroethane</i>
<i>Cresols</i>	<i>1,4-dichlorobenzene</i>
<i>1,2-dichlorobenzene</i>	<i>cis-1,2-dichloroethylene</i>
<i>2,4-dinitrophenol</i>	<i>2,4-dinitrotoluene</i>
<i>Hexachloroethane</i>	<i>Hexachlorobenzene</i>
<i>Isobutanol</i>	<i>Methyl ethyl ketone</i>
	<i>Pentachlorophenol</i>
<i>Pyridine</i>	<i>Tetrachloroethylene</i>
<i>1,1,2-Trichloroethane</i>	<i>Trichloroethylene</i>
<i>Trichlorofluoromethane</i>	<i>Xylenes</i>
<i>Nitrobenzene</i>	<i>Vinyl chloride</i>
<i>Arsenic</i>	<i>Barium</i>
<i>Cadmium</i>	<i>Chromium</i>
<i>Lead</i>	<i>Mercury</i>
<i>Selenium</i>	<i>Silver</i>
<i>Antimony</i>	<i>Beryllium</i>
<i>Nickel</i>	<i>Thallium</i>
<i>Gross-alpha</i>	<i>Gross-beta</i>

**COMMENT 215: Attachment M1-1c(1), Page M1-4, Lines 34 to 38**

**A. Draft Permit Module or Attachment Text**

*In addition, four TRUPACT-IIs, containing up to eight 7-packs or SWBs or four TDOPs, may occupy the staging positions at the TRUDOCK Storage Area of the WHB Unit. If waste containers are left in this area, they will be in the TRUPACT-II shipping container with or without the shipping container lids removed. The volume of waste in containers in four TRUPACT-IIs is 530.4 ft<sup>3</sup> (15 m<sup>3</sup>).*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. The condition should be modified to provide WIPP operational flexibility within the permitted storage capacity.

There may be occasions during waste unloading operations when a facility pallet is not filled by the end of an operating shift. In such cases, the facility pallet will be left in its location adjacent to the TRUDOCKs until it is filled during the next waste handling shift. The Second Draft does not allow this option. To comply with the Second Draft, waste will either have to be handled twice, to move the pallet to the storage area and then back for the next shift, or operations will have to end early on those days when enough waste to fill a pallet cannot be unloaded before the end of the shift. Both of these approaches are inefficient and increase the risk to human health and the environment. The proposed text change allows the waste on the pallet to remain in the TRUDOCK area between shifts without exceeding the permitted storage capacity for the TRUDOCK area.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment M1-1c(1), Page M1-4, Lines 34 to 38**

*In addition, four TRUPACT-IIs, containing up to eight 7-packs or SWBs or four TDOPs, may occupy the staging positions at the TRUDOCK Storage Area of the WHB Unit. If waste containers are left in this area, they will be in the TRUPACT-II shipping container with or without the shipping container lids removed or placed on a facility pallet adjacent to a TRUDOCK. The volume of waste in containers in four TRUPACT-IIs is 530.4 ft<sup>3</sup> (15 m<sup>3</sup>).*



COMMENT 216: Attachment M1-1c(1), Page M1-6, Lines 25 to 36

**A. Draft Permit Module or Attachment Text**

*The facility pallet is a fabricated steel unit designed to support 7-packs of drums, SWBs, TDOPs, or groups of overpack drums, and has a rated load of 25,000 lbs. (11,430 kg). The facility pallet will accommodate up to four 7-packs of drums or four SWBs (in two stacks of two units), two TDOPs, or two groups of overpack drums (maximum of four drums per group), or any combination thereof. Loads are secured to the facility pallet during transport to the emplacement area. Facility pallets are shown in Figure M1-10. Fork pockets in the side of the pallet allow the facility pallet to be lifted and transferred by forklift to prevent direct contact between TRU mixed waste containers and forklift tines. This arrangement reduces the potential for puncture accidents. WIPP facility operational documents define the operational load of the facility pallet as the contents of two TRUPACT-IIs. Since the maximum TRUPACT-II load is 7,265 lbs (3,300 kg), the maximum weight of a loaded facility pallet is less than 19,000 lbs (8,630 kg), including the pallet weight.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout version. This condition should be modified to delete the tiedown requirement.

The Permittees have conducted two separate studies to evaluate the use of tiedowns on the facility pallet for the movement of loads through the WIPP facility. One study, performed under Work Packages 9707412 C and 9707413 C evaluated the safety of moving loads through the facility without tiedowns. Simulated waste was transferred from the surface to the underground under conditions that represent the most severe for waste movement including grades, speed, and stops. The study concluded that tiedowns were unnecessary for the conditions anticipated at the WIPP. The second study was an evaluation of the radiation dose to individuals as the result of hooking and unhooking the tiedowns. Dose estimates associated with the attaching of restraints to waste filled pallets can vary widely depending on the assumptions made. Using the following assumptions, an estimate of 6 person-rem per year was derived:

1. americium gammas are assumed to be the primary constituent of external dose
2. the attaching of restraints requires two waste handlers to be one foot from a 14-pack for a period of eight minutes;
3. the contact dose rate is 10 mrem/hr;
4. the dose at one foot is 6 mrem/hr; and
5. TRUPACT-IIs are handled a week for 52 weeks per year.

For each 14-pack, the accrued dose would be (2 people) X (6 mrem/hr) X (8 minutes) X (1 hour/60 minutes) = 1.6 mrem/14 pack, which equates to 4.24 person-rem per year. However, the most current information suggests that dose rates due to neutrons may

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be as high as 25% of the gamma dose rate. This would add 2.5 mrem/hr (25% of 10 mrem) to the effective dose at one foot from the barrel, for a cumulative annual dose rate of

$[(6 + 2.5 \text{ mrem/hr}) / (6 \text{ mrem/hr})] \times 4.24 \text{ rem/year}$  for a total annual cumulative dose of 6 person-rem/year.

Higher dose estimates approaching 10 person-rem/year would result if the primary constituent of dose were assumed to be due to cesium-137. Depending on how much of the waste contains Cs-137, doses associated with attaching restraints could realistically approach a 10 rem/year.

Deleting the requirements to secure loads will represent a significant dose savings over the active life of the WIPP facility.

### **C. Proposed Revisions to the Draft Permit**

#### **1. Attachment M1-1c(1), Page M1-6, Lines 25 to 36**

*The facility pallet is a fabricated steel unit designed to support 7-packs of drums, SWBs, TDOPs, or groups of overpack drums, and has a rated load of 25,000 lbs. (11,430 kg). The facility pallet will accommodate up to four 7-packs of drums or four SWBs (in two stacks of two units), two TDOPs, two groups of overpack drums (maximum of four drums per group), or any combination thereof. ~~Loads are secured to the facility pallet during transport to the emplacement area.~~ Facility pallets are shown in Figure M1-10. Fork pockets in the side of the pallet allow the facility pallet to be lifted and transferred by forklift to prevent direct contact between TRU mixed waste containers and forklift tines. This arrangement reduces the potential for puncture accidents. WIPP facility operational documents define the operational load of the facility pallet as the contents of two TRUPACT-IIs. Since the maximum TRUPACT-II load is 7,265 lbs (3,300 kg), the maximum weight of a loaded facility pallet is less than 19,000 lbs (8,630 kg), including the pallet weight.*

#### **2. Attachment G-1, Page G-2, Lines 38 to 40 and Page G-3, Lines 1 to 3**

*Each facility pallet will accommodate four seven-packs, four SWBs, four four-packs of 85-gallon drums, two TDOPs, or any combination thereof. ~~Waste containers will be secured to the facility pallet prior to transfer.~~ A forklift will transport the loaded facility pallet to the conveyance loading car inside the air lock at the Waste Shaft (Figure G-3). The conveyance loading car will be driven onto the waste hoist deck, where the loaded facility pallet will be transferred to the waste hoist, and the loading car will be backed out.*

**COMMENT 217: Attachment M1-1d(2), Page M1-9, Lines 21 to 31, and Page M1-10, Lines 1 to 3**

**A. Draft Permit Module or Attachment Text**

***M1-1d(2) CH TRU Mixed Waste Handling***

***CH TRU mixed waste containers will arrive by tractor-trailer at the WIPP facility in sealed shipping containers (i.e., TRUPACT-IIs) (see Figure M1-11), at which time they will undergo security and radiological checks and shipping documentation reviews. A forklift will remove the TRUPACT-IIs and will transport them a short distance through an air lock that is designed to maintain differential pressure in the WHB. The forklift will place the shipping containers at one of the two TRUDOCKs in the TRUDOCK Storage Area of the WHB Unit, where an external survey of the TRUPACT-II inner vessel (see Figure M1-8) will be performed as the outer containment vessel lid is lifted. The inner vessel lid will be lifted under the TRUDOCK Vent Hood System (VHS), and the contents will be surveyed during and after this lift. The TRUDOCK VHS is attached to the TRUPACT-II to provide atmospheric control and confinement of headspace gases at their source. It also prevents potential personnel exposure and facility contamination due to the spread of radiologically contaminated airborne dust particles and minimizes personnel exposure to VOCs.***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version.

If during the waste handling process at the WIPP, a waste container is breached, it will be overpacked or plugged and patched. Plugging and patching needs to be an allowable option since it is an effective method for dealing with container holes and is a viable alternative to overpacking. With the choice of several options for dealing with container breaches, the operating staff will select the best mitigation practice for the conditions.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment M1-1d(2), Page )M1-10, Line 21 to 31, Page M1-10, Lines 1 to 3**

***M1-1d(2) CH TRU Mixed Waste Handling***

***CH TRU mixed waste containers will arrive by tractor-trailer at the WIPP facility in sealed shipping containers (i.e., TRUPACT-IIs) (see Figure M1-11), at which time they***

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*will undergo security and radiological checks and shipping documentation reviews. The trailers carrying the shipping containers will be stored temporarily at the Parking Area Container Storage Unit (Parking Area Unit). A forklift will remove the TRUPACT-IIs from the transport trailers and will transport them into the Waste Handling Building Container Storage Unit for unloading of the waste containers. Each TRUPACT-II may hold up to two 7-packs, two SWBs, or one TDOP. An overhead bridge crane will be used to remove the waste containers from the TRUPACT-II and place them on a facility pallet. Each facility pallet has two recessed pockets to accommodate two sets of 7-packs, two sets of 4-packs or two SWBs stacked two-high, or two TDOPs or any combination thereof. A forklift will transport the loaded facility pallet to the conveyance loading car inside the conveyance loading room adjacent to the Waste Shaft. The conveyance loading car will be driven onto the waste hoist deck, where the loaded facility pallet will be transferred to the waste hoist, and the loading car will be backed off. Containers of CH TRU waste (55-gal (208 L) drums, SWBs, 85-gal (321 L) drums, and TDOPs) can be handled individually, if needed, using the forklift and lifting attachments (i.e., drum handlers, parrot beaks). A forklift will remove the TRUPACT-IIs and will transport them a short distance through an air lock that is designed to maintain differential pressure in the WHB. The forklift will place the shipping containers at one of the two TRUDOCKs in the TRUDOCK Storage Area of the WHB Unit, where an external survey of the TRUPACT-II inner vessel (see Figure M1-8) will be performed as the outer containment vessel lid is lifted. The inner vessel lid will be lifted under the TRUDOCK Vent Hood System (VHS), and the contents will be surveyed during and after this lift. The TRUDOCK VHS is attached to the TRUPACT-II to provide atmospheric control and confinement of headspace gases at their source. It also prevents potential personnel exposure and facility contamination due to the spread of radiologically contaminated airborne dust particles and minimizes personnel exposure to VOCs.*

**COMMENT 218: Attachment M1-1e(2), Page M1-14, Lines 5 to 18**

**A. Draft Permit Module or Attachment Text**

*Inspection of waste containers is not possible when the containers are in their shipping container (i.e., TRUPACT-II). Inspections can be accomplished by bringing the shipping containers into the WHB Unit and opening them and lifting the waste containers out for inspection. The DOE, however, believes that removing containers strictly for the purposes of inspection results in unnecessary worker exposures and subjects the waste to additional handling. The DOE has proposed that waste containers need not be inspected at all until they are ready to be removed from the shipping container for emplacement underground. Because shipping containers are sealed and are of robust design, no harm can come to the waste while in the shipping containers and the waste cannot leak or otherwise be released to the environment. TRUPACT-II shipping containers shall be opened every 60 days for the purposes of venting, so that the longest waste would be uninspected would be for 60 days from the date that the inner containment vessel of the TRUPACT-II shipping container was closed at the generator site. Venting the TRUPACT-II shipping containers involves removing the outer and inner lids.*

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. The condition should be modified to reflect the fact that the ICV lid need not be removed order to vent a TRUPACT-II; while unloading the TRUPACT-II involves removing both lids, the venting is performed after the outer lid is removed and before the inner lid is removed. Venting is done through a radiation assessment filter as a meas of detecting contamination within the ICV. The text in this condition should be revised.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment M1-1e(2), Page M1-14, Lines 5 to 18**

*Inspection of waste containers is not possible when the containers are in their shipping container (i.e., TRUPACT-II). Inspections can be accomplished by bringing the shipping containers into the WHB Unit and opening them and lifting the waste containers out for inspection. The DOE, however, believes that removing containers strictly for the purposes of inspection results in unnecessary worker exposures and subjects the waste to additional handling. The DOE has proposed that waste containers need not be inspected at all until they are ready to be removed from the shipping container for emplacement underground. Because shipping containers are sealed and are of robust design, no harm can come to the waste while in the shipping containers and the waste cannot leak or otherwise be released to the environment. TRUPACT-II shipping containers shall be opened every 60 days for the purposes of venting, so that the longest waste would be uninspected would be for 60 days from the date that the inner containment vessel of the TRUPACT-II shipping container was closed at the generator site. Venting the TRUPACT-II shipping containers involves removing the outer ~~and inner~~ lids **and installing a tool in the port of the inner lid.***

COMMENT 219: Attachment M2-2a(1), Page M2-3, Lines 22 to 29

A. Draft Permit Module or Attachment Text

*Magnesium oxide (MgO) will be used as a backfill in order to provide chemical control over the solubility of radionuclides in order to comply with the requirements of 40 CFR §191.13. The MgO backfill will be purchased prepackaged in the proper containers for emplacement in the underground. Purchasing prepackaged backfill eliminates handling and placement problems associated with bulk materials, such as dust creation. In addition, prepackaged materials will be easier to emplace, thus reducing potential worker exposure to radiation. Should a backfill container be breached, MgO is benign and cleanup is simple. No hazardous waste would result from a spill of backfill.*

B. Discussion of the Draft Permit Condition

This is a resubmittal of Comment 98. The proposed changes should be incorporated to make this permit section consistent with the NMED's elimination of Backfill in Module IV.

C. Proposed Revisions to the Draft Permit

1. Attachment M2-2a(1), Page M2-3, Lines 22 to 29

*Magnesium oxide (~~MgO~~) will be used as ~~A~~ a backfill ~~may be used~~ in order to provide chemical control over the solubility of radionuclides in order to comply with the requirements of 40 CFR §191.13. ~~The currently preferred backfill, Magnesium Oxide (MgO), is compatible with the mixed waste.~~ The MgO backfill will be purchased prepackaged in the proper containers for emplacement in the underground. Purchasing prepackaged backfill eliminates handling and placement problems associated with bulk materials, such as dust creation. In addition, prepackaged materials will be easier to emplace, thus reducing potential worker exposure to radiation. Should a backfill container be breached, MgO is benign and cleanup is simple. No hazardous waste would result from a spill of backfill.*

*The MgO backfill will be purchased and received in ~~two different~~ appropriate containers: 1) a supersack holding 4,000 lbs (1,814 kg); and 2) a mini sack holding 25 lbs (11.3 kg) for emplacement in the facility. Quality assurance requirements, such as material quality and quantity, will be addressed by using current quality assurance procedures in the procurement process and receipt inspection. The filled containers will be shipped by road or rail and will be delivered underground using current shaft and material handling procedures and processes.*

*The mini sack ~~Backfill~~ will be 34 inches (~~placed in.~~) (86.4 centimeters (cm)) long, 6 in a*



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*reasonable distribution within the waste stack.*- (15 cm) in diameter and will be fabricated of a single layer of polyethylene. *No new equipment or other suitable material training of operators is necessary for managing backfill in this operation.*-

*It Quality control will have an integral handle/hook attached into be provided within the sack closure waste handling operating procedures to record that the backfill is placed in accordance with applicable specifications.*- Six sacks will be manually placed in the external voids. *Backfill management practices utilize existing waste handling techniques and equipment, and eliminate operational problems such as dust creation and the introduction of each 7-pack unit just before the 7-pack is positioned on the waste stack additional equipment and operations into waste handling areas. There are no mine operational considerations (e.g. ventilation flow and control) associated with backfill use. The mini sack will be lifted up behind the shrink wrap around the top of the 7-pack, slid into place, and held there by the four inch hole in the lower slip sheet. See Figure M2-4. Once the sacks are in place, the 7-pack will be positioned on the waste stack in the normal manner. No new equipment or training of operators is necessary.*

*A similar process will be used for SWBs except that the sacks will be hung from the lift clips on these units. See Figure M2-4. Again, no new equipment or training is necessary.*

*Super sacks will be handled and placed using the slip sheet/BRUDI technique used for normal waste handling operations. Hence, no new equipment, procedures, or training are required. Once each row of waste units is in place, a layer of 6 super sacks will be placed on top of them. See Figure M2-5. The super sack will be 5 ft (1.5 m) wide by 6 ft (1.8 m) deep by 1.5 ft (0.45 m) high and will be of multi-wall construction with a vapor/moisture barrier. The super sack will have an integral slip sheet or base attachment so that it can be handled and placed in a manner that is identical to how waste units are emplaced, using a BRUDI-like attachment on a lift truck.*

*Finally, mini sacks will be manually stacked on the floor in the space between the waste stack and ribside. These sacks can be placed horizontally or vertically as may be convenient and loading rates up to 100 lbs per linear foot (148.8 kg per linear meter) can be achieved.*

*Quality control will be provided within waste handling operating procedure to record that the correct number of sacks are placed and that the condition of the sacks is acceptable.*

*Backfill placed in this manner is protected until exposed when sacks are broken during creep closure of the room and compaction of the backfill and waste. Backfill in sacks utilizes existing techniques and equipment and eliminates operational problems such as dust creation and introducing additional equipment and operations into waste handling areas. There are no mine operational considerations (e.g. ventilation flow and control) when backfill is placed in this manner.*

**COMMENT 220: Attachment M2-2a(1), Page M2-4, Lines 27 to 31**

**A. Draft Permit Module or Attachment Text**

***The Conveyance Loading Car***

***The conveyance loading car is an electric vehicle that operates on rails. It is designed with a flat bed that has adjustable height capability and will be used to transfer the facility pallets on or off the pallet support stands in the waste hoist cage by raising and lowering the bed (see Figure M2-6).***

**B. Discussion of the Draft Permit Condition**

This is a resubmittal of a comment in the DOE Redline/Strikeout Version. This statement describing the Conveyance Loading Car should be moved to Attachment M1 because the Conveyance Loading Car is a piece of surface equipment.

**C. Proposed Revisions to the Draft Permit**

There are no edits to the text, it merely needs to be moved to Attachment M1.



**COMMENT 221: Attachment P**

**A. Discussion**

This is a resubmittal of a Comment 114, requesting the incorporation of the changes suggested previously.

**B. Proposed Revisions to the Draft Permit**

See the proposed specific revisions with Comment 114 in the DOE's 8/14/98 submittal.

## **4.0 CLARIFICATION COMMENTS**

These comments clarify portions of the draft Permit. The Permittees believe these clarifications are necessary to make the Permit more accurately reflect the conditions at the facility and to incorporate the latest versions of various figures, tables and forms. Note that updated, tables, and figures are included at the end of these comments.

### **COMMENT 222: General Comment - Forms**

#### **A. Discussion of the Draft Permit Condition**

The Permittees are providing updated forms for inclusion in the final permit. The reasons for these updates are as follows. The Waste Stream Profile form has been revised to add information that is not required by RCRA, but is required by other regulations and statues such as 40 C.F.R. 191 and the WIPP Land Withdrawal Act. Including this and the WSPF is administratively useful to the WIPP. Some inspection forms have been updated to provide more complete information on personnel conducting inspections and reviewing inspection reports (including printed name, signature, date, and time on the inspection report). One inspection form has been modified to correct the PSI rating in fire truck tires to meet the manufacturer's recommendations. Another form has been updated to eliminate inspector subjectivity. New inspection forms have been provided for the inspection of newly mined areas (underground openings inspection checklist) to meet a MSHA requirement.

#### **B. Proposed Revision to the Draft Permit**

##### **1. Attachment B, Figure B-1, Page B-57**

Replace form with the updated form attached.

##### **2. Attachment D1, Fire Trucks**

Replace inspection forms contained in PM 000033 with the updated forms attached.

##### **3. Attachment D1, Surface Rescue Truck and Equipment**

Replace the inspection forms for PM 000030 with the updated forms attached.

##### **4. Attachment D1, Underground Openings Roof Bolts and Travelways**

Replace the inspection form for WP 04-AU1007 with the updated form attached.

##### **5. Attachment D1, Forklifts**

Add attached pages 3 and 4 of WP 05-WH1412 before page 5 of WP 05-WH1412.

### **COMMENT 223: Module II.C.1.g, Page II-4**

**A. Draft Permit Module or Attachment Text**

*WIPP Waste Information System (WWIS) database - the Permittees shall provide the Secretary access to the WWIS database as necessary to determine compliance with the WAP. The WWIS shall certify that the WWIS database is functional and meets all requirements presented in Section B-4b(1)(i) of the WAP, Permit Attachment B, prior to acceptance of TRU mixed waste from any generator/storage site. In addition, the Permittees shall provide The Secretary's access to the WWIS shall be with direct, read-only access (via modem or Internet) to all query and reporting functions of the Characterization, Certification, Shipping, and Inventory modules of the entire WWIS database and all reporting capabilities to allow independent evaluation of all information and data related to the characterization, certification, shipment, and disposal of waste to WIPP.*

**B. Discussion of the Draft Permit Condition**

The changes proposed below should be incorporated into this section to accurately describe the Secretary's access to the WWIS. Attachment B-4b(1), Page B-27, Lines 35 to 36 states that the NMED will have read-only access to determine compliance with the WAP. Module II.C.1.g states that the Secretary will have access to all query and reporting functions of the WWIS database. However, these sections would include the characterization, certification, shipping, and inventory modules of the database. These sections are not required to determine compliance with the WAP. If the NMED is provided user authorization for READ only access, this would allow the NMED viewer information which includes security information such as passwords/user names, user profile information, and proprietary codes. Providing NMED with WWIS Remote Site Query access would be sufficient for NMED to assess WAP compliance. The Permittees will configure access for the NMED which is consistent with the request in the Second Draft. Since not all of the requested functions are available at this time (i.e., VOC room averages are not available through remote access), the Permittees will complete the needed programming prior to the first receipt of TRU mixed waste. Because this access is to be configured specifically for the NMED, it will be called "NMED Remote Site Query" access.

**C. Proposed Revision to the Draft Permit**

**1. Module II.C.1.g, Page II-4**

*WIPP Waste Information System (WWIS) database - the Permittees shall provide the Secretary with NMED Remote Site Query access to the WWIS database as necessary to determine compliance with the WAP. The WWIS shall meet all requirements presented in Section B-4b(1)(i) of the WAP, Permit Attachment B, prior to acceptance of TRU mixed waste. The Secretary's access to the WWIS shall be direct, read-only (via modem or Internet) to all query and reporting functions of the Characterization, Certification, Shipping, and Inventory modules of the WWIS database.*

**COMMENT 224: Module II.C.3.a, Page II-5**

**A. Draft Permit Module or Attachment Text**

***Liquids - liquid waste is not acceptable at WIPP. Waste shall contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers shall contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container. Total residual liquid in any payload container (e.g., 55-gallon drum, standard waste box, etc.) may not exceed 1 percent volume of that container.***

**B. Discussion of the Draft Permit Condition**

The proposed change should be incorporated to provide the generator sites necessary operational flexibility while remaining within the regulatory requirement for residual liquid in a payload container. The permittees will verify the processes for these liquid determinations. Strict adherence to the 1 inch level (as implied by “shall”) will cause an unnecessary burden on generator/storage sites and will increase radiation exposure to workers at those sites with no additional protection of human health and the environment.

Taken literally, this will result in some payload containers being prohibited from disposal at the WIPP that have insignificant amounts of liquid far below the once percent limit. Note that this condition is inconsistent with Section B-3c (page B-12) which requires that internal containers be assumed to be completely full.

**C. Proposed Revisions to the Draft Permit**

**1. Module II.C.3.a, Page II-5**

***Liquids - liquid waste is not acceptable at WIPP. Waste shall contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers ~~shall~~ should contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container. Total residual liquid in any payload container (e.g., 55-gallon drum, standard waste box, etc.) may not exceed 1 percent volume of that container.***

**2. Attachment B-1c, Page B-6, Lines 25 to 29**

***liquid waste (waste ~~shall~~ should contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers shall contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container. Total residual liquid in any payload container (e.g., 55 gallon drum or standard waste box) may not exceed 1 percent volume of that container)***

**COMMENT 225: Attachment B, Page B-7, Lines 18 to 31**

**A. Draft Permit Module or Attachment Text**

*Before accepting a container holding TRU mixed waste, the Permittees will ensure, through audit and as part of its Level III analysis, that generator/storage sites examine the radiography or visual examination data records as part of its Level III analysis (refer to Section B-4b-B1-4b in Permit Attachment B1) to verify that the container holds no unvented compressed gas containers and that residual liquid does not exceed 1 percent volume in any container. If discrepancies or inconsistencies are detected during the radiography data form review, the generator/storage site-Permittees will review the radiography video tape or visual examination tape to verify that the observed physical form of the waste is consistent with the waste stream description provided by the generator and to ensure that no prohibited items are present in the waste. Radiography tapes will be selected randomly from at least one percent of containers received at WIPP and will be reviewed and compared to radiographic data forms. All personnel who review radiography video tapes will be trained to the same standard as radiography operators. Section B-4 includes a description of the waste verification process that the Permittees will conduct prior to receiving a shipment at the WIPP facility.*

**B. Discussion of the Draft Permit Condition**

The requirement for an additional one percent review of radiography tapes should be removed from the permit because it is unnecessary. Quality Control requirements for radiography tapes are described in Attachment B1. Generator/storage sites are required to review one radiography scan per testing batch or one per day which is sufficient quality control to fully protect human health and the environment.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B, Page B-7, Lines 18 to 31**

*Before accepting a container holding TRU mixed waste, the Permittees will ensure, through audit and as part of its Level III analysis, that generator/storage sites examine the radiography or visual examination data records (refer to Section B-4b) to verify that the container holds no unvented compressed gas containers and that residual liquid does not exceed 1 percent volume in any container. If discrepancies or inconsistencies are detected during the data form review, the generator/storage site will review the radiography video tape or visual examination tape to verify that the observed physical form of the waste is consistent with the waste stream description provided by the generator and to ensure that no prohibited items are present in the waste. Radiography tapes will be selected randomly from at least one percent of containers received at WIPP and will be reviewed and compared to radiographic data forms. All personnel who review radiography video tapes will be trained to the same standard as radiography operators. Section B-4 includes a description of the waste verification process that the Permittees will conduct prior to receiving a shipment at the WIPP facility.*

**COMMENT 226: Attachment B-4b(2), Page B-31, Lines 24 to 32, and Page B-32, Lines 1 to 13**

**A. Draft Permit Module or Attachment Text**

***Hazardous Waste Manifest Information:***

- ***Generator/storage site name and EPA ID***
- ***Generator/storage site contact name and phone number***
- ***Quantity of waste***
- ***List of the hazardous waste codes in the shipment***
- ***Listing of all container IDs***
- ***Signature of authorized generator representative***

**B. Discussion of the Draft Permit Condition**

The proposed revisions should be incorporated in the section to update the list of information to be included with shipments in Section B-4b(2). Also, the permit should add typical LDR notice information to be consistent with regulations and section B-4b(2)(ii). The hazardous waste manifest will include *shipping* container ID s. The hazardous waste manifest number is required for LDR notices pursuant to 20 NMAC 4.1.800 incorporating 40 C.F.R. § 268.7 and thus should be included in the list of information provided by the generator/storage sites. Notice that the waste is not prohibited from land disposal is required in section B-4b(2)(ii) and should be added to this list for consistency. The date the waste is subject to prohibition is required pursuant to 20 NMAC 4.1.800 incorporating 40 C.F.R. § 268.7 and should be added to the list. The specific container information will be supplied electronically via the WWIS prior to the shipment. The text must be corrected to reflect this method of data transmittal.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B-4b(2), Page B-31, Lines 24 to 32, and Attachment B, Page B-32, Lines 1 to 13**

***Hazardous Waste Manifest Information:***

- ***Generator/storage site name and EPA ID***

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- *Generator/storage site contact name and phone number*
- *Quantity of waste*
- *List of the hazardous waste codes in the shipment*
- *Listing of all shipping container IDs*
- *Signature of authorized generator representative*

*Typical Land Disposal Restriction Notice Information:*

- *EPA Hazardous Waste **Manifest** Number(s)*
- ***Note that the waste is not prohibited from land disposal at the WIPP***
- ~~*Supporting analyses and/or references to previously supplied analytical data (such as Characterization Reports and data submitted to the WWIS)*~~
- ***Date the waste is subject to prohibition***

*Specific WWIS Container information:*

- *Waste Stream Identification Number*
- *List of Hazardous Codes per Container*
- *Certification Data (Nuclide info, etc.)*
- *Shipping Data (Assembly numbers, ship date, shipping category, etc.)*

*This information shall also be supplied electronically to the WWIS. The **specific container** information will be provided to the WWIS as part of the Phase I Screening, and shall be supplied **electronically** prior to the Permittees' management, storage, or disposal of the waste.*

**COMMENT 227: Attachment B1-1a(1), Page B1-4, Lines 10 to 18**

**A. Draft Permit Module or Attachment Text**

- *A cylinder of compressed zero air, helium, argon, or nitrogen gas that is hydrocarbon and carbon dioxide (CO<sub>2</sub>)-free to clean the manifold between samples and to provide gas for the collection of equipment blanks or on-line blanks. These high-purity gases shall be certified by the manufacturer to contain less than one ppm total VOCs. The gases must be metered into the standard side of the manifold by two-stage stainless steel regulators. Alternatively, a zero air generator may be used, provided a sample of the zero air is collected and demonstrated to contain less than one ppm total VOCs. Zero air from a generator shall be humidified.*

**B. Discussion of the Draft Permit Condition**

The permit should be clarified regarding the use of hydrocarbons and CO<sub>2</sub> gasses. Only zero air, helium, or nitrogen is used with FTIRS. FTIRS need to be dry and hydrocarbon and CO<sub>2</sub>-free.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B1-1a(1), Page B1-4, Lines 10 to 18**

- *A cylinder of compressed zero air, helium, argon, or nitrogen gas that is hydrocarbon and carbon dioxide (CO<sub>2</sub>)-free (only hydrocarbon and (CO<sub>2</sub>)-free gases required for FTIRS) to clean the manifold between samples and to provide gas for the collection of equipment blanks or on-line blanks. These high-purity gases shall be certified by the manufacturer to contain less than one ppm total VOCs. The gases must be metered into the standard side of the manifold by two-stage stainless steel regulators. Alternatively, a zero air generator may be used, provided a sample of the zero air is collected and demonstrated to contain less than one ppm total VOCs. Zero air from a generator shall be humidified (except for use with FTIRS).*



**COMMENT 228: Attachment B1-3a, Page B1-21, Lines 20 to 29**

**A. Draft Permit Module or Attachment Text**

*To perform radiography, the waste container is scanned while the operator views the television screen. An audio/videotape **or equivalently non-alterable media** is made of the waste container scan and is maintained as a permanent record. A radiography data form is also used to document the Waste Matrix Code and estimated waste material parameter weights of the waste. The estimated waste material parameter and weights should be determined by compiling an inventory of waste items, residual materials, and packaging materials. The items on this inventory should be sorted by waste material parameter and combined with a standard weight look-up table to provide an estimate of waste material parameter weights. Containers with lead liners, or other containers whose contents prevent full examination of the remaining contents, shall be subject to visual examination.*

**B. Discussion of the Draft Permit Condition**

The permit should be modified to consistently categorize audio/videotapes record type. The text on page B1-21 indicates that these records are maintained as permanent records. Table B-7 indicates that audio/video recordings are nonpermanent records. In Table B-7 non-permanent records are those that the generator/storage site must maintain for 10 years from the date of record generation and then must disposition them in accordance with their RIDS.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B1-3a, Page B1-21, Lines 20 to 29**

*To perform radiography, the waste container is scanned while the operator views the television screen. An audio/videotape or equivalently non-alterable media is made of the waste container scan and is maintained as a **non**-permanent record. A radiography data form is also used to document the Waste Matrix Code and estimated waste material parameter weights of the waste. The estimated waste material parameter and weights should be determined by compiling an inventory of waste items, residual materials, and packaging materials. The items on this inventory should be sorted by waste material parameter and combined with a standard weight look-up table to provide an estimate of waste material parameter weights. Containers with lead liners, or other containers whose contents prevent full examination of the remaining contents, shall be subject to visual examination.*

**COMMENT 229: Attachment B3-3, Page B3-9, Lines 6 to 22**

**A. Draft Permit Module or Attachment Text**

*The recommended method for establishing acceptance criteria for co-located cores and co-located samples is the F-test method because the F-Test: 1) does not require potentially arbitrary groupings into batches, 2) is based on exact distributions, and 3) is more likely to detect a change in the process. In the event that a sufficient number of samples are collected (25 to 30 pairs of co-located cores or samples), control charts of the RPD will be developed for each constituent and for each waste matrix or waste type (e.g., pyrochemical salts or organic sludges). The limits for the control chart will be three standard deviations above or below the average RPD. Once constructed, RPDs for additional co-located pairs will be compared with the control chart to determine whether or not the co-located cores are acceptable. Periodically, the control charts will be updated using all available data.*

*The statistical test will involve calculating the variance for co-located cores **and samples** by pooling the variances computed for each pair of **duplicate results-co-located-cores**. The variance for the waste stream will be computed excluding any data from drums with co-located cores, because the test requires the variance estimates to be independent. All data must be transformed to normality prior to computing variances and performing the test. The test hypothesis is evaluated using the F distribution and the method for testing the difference in variances.*

**B. Discussion of the Draft Permit Condition**

The permit should be clarified with respect to when control charts are preferred over performing the F-test. Revised text has been provided for Lines 6 to 15 which does not change the meaning of the permit, but clarifies the order of preference for application of the two methods. The new text requires use of the F-test until enough co-located core sample pairs have been obtained to perform control charting.

The text in lines 16 through 22 should be deleted because it conflicts with the new requirements in lines 6 through 15. Lines 16 to 22 require F-testing on all data. While the F-test is not inappropriate, it is most applicable when the number of sample pairs is low. Control charts are applicable and preferred when the number of sample pairs is sufficiently high to allow for their construction.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B3-3, Page B3-9, Lines 6 to 22**

~~The recommended initial method for establishing acceptance criteria for co-located cores and co-located samples is the F-test method because the F-Test: 1) does not require potentially arbitrary groupings into batches, 2) is based on exact distributions, and 3) is more likely to detect a change in the process. In the event that a~~ **the co-located cores (or samples) is the F-test procedure for testing the difference in variances. The statistical test compares the variance for co-located cores (or samples), using pooled variances for each pair of duplicate results, with the variance for the waste stream. sufficient number of samples are collected (25 to 30 pairs of co-located cores or samples), control charts of the RPD will be developed** ~~The waste stream variance excludes data from drums with co-located cores (or samples), because the test requires the variance estimates to be independent. All data must be transformed to normality prior to computing variances and performing the test. Control charts of the RPD for each constituent and for each waste matrix or waste type (e.g., pyrochemical salts or organic sludges).~~ **will replace the F-test method after a sufficient number of samples have been collected (i.e., 25 to 30 pairs of co-located cores). The limits for the control chart will be three standard deviations above or below the average RPD. Once constructed, RPDs for additional co-located pairs will be compared with the control chart to determine whether or not the co-located cores (or samples) are acceptable. Periodically, the control charts will be updated using all available data.**

~~The statistical test will involve calculating the variance for co-located cores and samples by pooling the variances computed for each pair of duplicate results. The variance for the waste stream will be computed excluding any data from drums with co-located cores, because the test requires the variance estimates to be independent. All data must be transformed to normality prior to computing variances and performing the test. The test hypothesis is evaluated using the F-distribution and the method for testing the difference in variances.~~

**COMMENT 230: Attachment B3-10, Page B3-22, Lines 27 to 28**

**A. Draft Permit Module or Attachment Text**

- *All field and laboratory records must be maintained in permanent files according to NEIC guidelines.*

**B. Discussion of the Draft Permit Condition**

The permit text should be revised to require that field and laboratory records be maintained as non-permanent records.

The Permit currently establishes requirements for "lifetime" and "non-permanent" records. No other description is given of a separate classification of "permanent" records. This new record classification is unnecessary and confusing. Also, the NEIC guidelines listed in this requirement are obsolete and are no longer available for use.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B3-10, Page B3-22, Lines 27 to 28**

*All field and laboratory records must be maintained **as non-permanent records** in permanent files according to NEIC guidelines.*

**COMMENT 231: Attachment B3-12, Page B3-33, Lines 11 to 12**

**A. Draft Permit Module or Attachment Text**

- *Waste container headspace gas hydrogen, methane, and VOC **summary** analytical results*

**B. Discussion of the Draft Permit Condition**

The permit should not require that information relative to hydrogen and methane be recorded in the waste stream characterization summary packages. Hydrogen and methane have been deleted elsewhere in the WAP but remain listed in Attachment B3.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B3-12, Page B3-33, Lines 11 to 12**

*Waste container headspace gas ~~hydrogen, methane,~~ and VOC summary analytical results*

**COMMENT 232: Attachment B3, Table B3-5, Page B3-45 and B3-46**

**A. Draft Permit Module or Attachment Text**

**TABLE B3-5  
SUMMARY OF LABORATORY QUALITY CONTROL SAMPLES AND  
FREQUENCIES FOR TOTAL VOLATILE ORGANIC COMPOUND ANALYSIS**

QC Sample	Minimum Frequency	Acceptance Criteria	Corrective Action <sup>a</sup>
Method performance samples	Seven (7) samples initially and four (4) semiannually	Meet total VOC analysis QAOs	Repeat until acceptable
Blind audit samples	Samples and frequency controlled by the Solid PDP Plan	Specified in the Solid PDP Plan	Specified in the Solid PDP Plan

**B. Discussion of the Draft Permit Condition**

The proposed changes should be incorporated in the permit because the calibration requirements provided in tables B3-5, B3-7, and B3-9 are incomplete. SW-846 should be referenced as it includes a complete description of calibration requirements for all permit-specified analytical methods for solidified waste.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B3, TABLE B3-5, Page B3-45 and B3-46**

**TABLE B3-5  
SUMMARY OF LABORATORY QUALITY CONTROL SAMPLES AND  
FREQUENCIES FOR TOTAL VOLATILE ORGANIC COMPOUND ANALYSIS**

QC Sample	Minimum Frequency	Acceptance Criteria	Corrective Action <sup>a</sup>
Method performance samples	<del>Seven (7) samples initially and four (4) semiannually</del> <i>See SW-846</i>	<del>Meet total VOC analysis QAOs</del> <i>See SW-846</i>	Repeat until acceptable
Blind audit samples	<del>Samples and frequency controlled by the Solid PDP Plan</del> <i>See SW-846</i>	<del>Specified in the Solid PDP Plan</del> <i>See SW-846</i>	Specified in the Solid PDP Plan

**2. Attachment B3, Table B3-7, Page B3-48**

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**TABLE B3-7  
SUMMARY OF LABORATORY QUALITY CONTROL SAMPLES AND FREQUENCIES  
FOR TOTAL SEMI-VOLATILE ORGANIC COMPOUNDS ANALYSIS**

GC/MS Calibration	<p><i>DFTPP-BFB Tune every 12 hours</i></p> <p><i>5-pt. Initial Calibration initially, and as needed</i></p> <p><i>Continuing Calibration every 12 hours</i></p> <p><i>See SW-846</i></p>	<p><i>Abundance criteria met as per method</i></p> <p><i>%RSD for GCG <math>\leq</math> 30, response factors <math>\leq</math> 0.30 for SPGC compounds <math>\leq</math> 0.05 (0.25 for Bromoform);</i></p> <p><i>Average response factor used if %RSD <math>\leq</math> 15, use linear regression if <math>&gt;</math> 15; R or R<sup>2</sup> <math>\geq</math> 0.999 if using alternative curve</i></p> <p><i>%D <math>\leq</math> 20 for GCG, Response factor for SPGC <math>\geq</math> 0.05 response factor <math>\leq</math> 0.30, RT for internal standard must be <math>\pm</math> 30 seconds from last daily calibration, internal standard area count must be <math>&gt;</math> 50% and <math>&lt;</math> 200% of last daily calibration</i></p> <p><i>See SW-846</i></p>	Repeat until acceptable
GC/ECD-GC/FID Calibration	<p><i>3-pt. Initial Calibration initially and as needed</i></p> <p><i>Continuing Calibration every 12 hours</i></p> <p><i>See SW-846</i></p>	<p><i>Correlation Coefficient <math>\geq</math> 0.990 <math>\leq</math> or %RSD <math>&lt;</math> 20-35 for all analytes</i></p> <p><i>RF or %D or %Drift for all analytes <math>\leq</math> 15 of expected values, RT <math>\pm</math> 3 standard deviations of initial calibration</i></p> <p><i>See SW-846</i></p>	Repeat until acceptable
Matrix spike duplicates	One (1) per analytical batch	Meet Table B3 RPDs and %Rs	Nonconformance if RPDs and %Rs $>$ Table B3 values
Laboratory control samples	One (1) per analytical batch	80 - 120 %Rs	Nonconformance if %R $<$ 80 or $>$ 120
Surrogate compounds	Each analytical sample	Average %R from minimum of 30 samples from a given matrix $\pm$ 3 standard deviations	Nonconformance if %R $<$ (average %R - 3 standard deviations) or $>$ (average %R + 3 standard deviations)
Blind audit samples	<i>See SW-846</i> Samples and frequency controlled by the Solid PDP Plan	<i>See SW-846</i> Specified in the Solid PDP Plan	Specified in the Solid PDP Plan

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**3. Attachment B3, Table B3-9, Page B3-51 and B3-52**

**TABLE B3-9  
SUMMARY OF LABORATORY QUALITY CONTROL SAMPLES AND FREQUENCIES  
FOR TOTAL METALS ANALYSIS**

QC Sample	Minimum Frequency	Acceptance Criteria	Corrective Action <sup>a</sup>
ICP-MS Tune (ICP-MS Only)	Daily	4 Replicate %RSD $\leq$ 10; mass calibration within 0.1 amu; resolution $<$ 1.0 amu full width at 10% peak height	Non-conformance if %RSD $>$ 10; mass calibration $>$ 0.1 amu; resolution $>$ 1.0 amu
Initial Calibration 1 blank, 1 standard (ICP, ICP-MS) 3 standard, 1 blank (GFAA, FLAA) 5 standard, 1 blank (CVAA, HAA)	Daily	90-110 %R for initial calibration verification solution. Regression coefficient $\geq$ 0.995 for FLAA, CVA, GFAA, MAA	Correct problem and recalibrate; repeat initial calibration
Continuing Calibration	Every 10 samples and beginning and end of run	90-110% for continuing calibration verification solution. (80-120% for CVAA, GFAA, HAA, FLAA)	Correct problem and recalibrate; rerun last 10 samples
Internal Standard Area Verification (ICP-MS)	Every Sample	%D $\leq$ 30 of calibration blank internal standard area	Non-conformance if not reanalyzed at 5-X dilution
Serial Dilution (ICP, ICP-MS)	One (1) per analytical batch	5-X dilution must be $\leq$ 10% D of initial value for sample $>$ 50xIDL	Flag Data if $>$ 10% and $>$ 50xIDL
Interference Correction Verification (ICP, ICP-MS)	Beginning and end of run or every 12 hours (8 for ICP) whichever is more frequent	80-120% recovery for analytes; $\leq$ 3 X IDL (5 X for ICP) of analytes in interferant only solution	Correct problem and recalibrate; nonconformance if not corrected
Laboratory Control Samples	One (1) per analytical batch	80 - 120 %Rs	Redigest and reanalyze for affected analytes; non conformance if not reanalyzed
Blind audit samples	Samples and frequency controlled by the Solid PDP Plan	Specified in the Solid PDP Plan	Specified in the Solid PDP Plan
ICP-MS Calibration	See SW-846	See SW-846	Repeat until acceptable
ICP-AES Calibration	See SW-846	See SW-846	Repeat until acceptable
FLAA Calibration	See SW-846	See SW-846	Repeat until acceptable
GFAA Calibration	See SW-846	See SW-846	Repeat until acceptable
CVAA Calibration	See SW-846	See SW-846	Repeat until acceptable
HAA Calibration	See SW-846	See SW-846	Repeat until acceptable

<sup>a</sup> Corrective action per section B3-13 when final reported QC samples do not meet the acceptance criteria. Nonconformances do not apply to matrix related exceedances.

<sup>b</sup> Applies only to concentrations greater than the PQRLs listed in Table B3

IDL = Instrument Detection Limit  
PDP = Performance Demonstration Program  
PQRL = Program Required Detection Limit



**COMMENT 233: Attachment B4-2b, Page B4-3, Lines 22 to 33**

**A. Draft Permit Module or Attachment Text**

- *Area(s) and/or building(s) from which the waste stream was or is generated*
- *Waste stream volume and time period of generation (e.g., 100 standard waste boxes of retrievable stored waste generated from June 1977 through December 1977)*
- *Waste generating process described for each building (e.g., batch waste stream generated during decommissioning operations of glove boxes)*
- *Process flow diagrams (e.g., a diagram illustrating glove boxes from a specific building to a size reduction facility to a container storage area)*
- *Material inputs or other information that identifies the chemical and radionuclide content of the waste stream and the physical waste form (e.g., glove box materials and chemicals and radionuclides handled during glove box operations, if applicable)*

**B. Discussion of the Draft Permit Condition**

The permit should be clarified by adding "as applicable" to modify the process flow diagrams requirement because general "processes" such as research and development or analytical lab operations, are not readily associated with such a process flow diagram.

**C. Proposed Revision to the Draft Permit**

**1. Attachment B402b, Page B4-3, Lines 22 to 33**

- *Area(s) and/or building(s) from which the waste stream was or is generated*
- *Waste stream volume and time period of generation (e.g., 100 standard waste boxes of retrievable stored waste generated from June 1977 through December 1977)*
- *Waste generating process described for each building (e.g., batch waste stream generated during decommissioning operations of glove boxes)*
- *Process flow diagrams, as applicable (e.g., a diagram illustrating glove boxes from a specific building to a size reduction facility to a container storage area)*
- *Material inputs or other information that identifies the chemical and radionuclide content of the waste stream and the physical waste form (e.g., glove box materials and chemicals and radionuclides handled during glove box operations, if applicable)*

**COMMENT 234: Attachment B4-2c, Page B4-5, Lines 2 to 6**

**A. Draft Permit Module or Attachment Text**

*The Permittees shall obtain supplemental acceptable knowledge information from the sites, and shall **may** use this information to compile the acceptable knowledge written record. Supplemental acceptable knowledge documentation that shall **may** be used (if available) in addition to the required information specified above include, but are not limited to, the following information:*

**B. Discussion of the Draft Permit Condition**

Clarify this text to state that the generator/storage sites, not the Permittees, obtain and use this information.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment B4-2c, Page B4-5, Lines 2 to 6**

*The **generator/storage sites** Permittees shall obtain supplemental acceptable knowledge information ~~from the sites~~, and may use this information to compile the acceptable knowledge written record. Supplemental acceptable knowledge documentation that may be used (if available) in addition to the required information specified above include, but are not limited to, the following information:*

**COMMENT 235: Attachment C-1a(1), Page C-2, Line 1 to 10**

**A. Draft Permit Module or Attachment Text**

*The major duties of the security officers are to control personnel, vehicle, and material access/egress 24 hours per day, 365 days per year. During non-operational hours, the security officers conduct documented security patrols outside of the PPA, at a minimum rate of two per 12-hour shift, as well as inside of the PPA at a rate of one every two hours. **Whenever scheduled security patrols cannot be made, for situations such as inclement weather or an emergency, the reason for missing the patrol will be documented in the security logbook.** In addition to the security officers, WIPP facility employees are called upon to challenge any person in the WIPP facility who is not wearing a badge or who is not under escort when an escort is required. Further physical protection is provided by fences, protective lighting, and locked buildings.*

**B. Discussion of the Draft Permit Condition**

The requirement for patrols inside the PPA should be deleted because security patrols inside the PPA every two hours adds no additional protection to the facility from outside intrusion and are not necessary to meet the RCRA regulations. The need for such patrols is determined by security personnel and may change based on specific circumstances over time.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment C-1a(1), Page C-2, Line 1 to 10**

*The major duties of the security officers are to control personnel, vehicle, and material access/egress 24 hours per day, 365 days per year. During non-operational hours, the security officers conduct documented security patrols outside of the PPA, at a minimum rate of two per 12-hour shift, ~~as well as inside of the PPA at a rate of one every two hours.~~ Whenever scheduled security patrols cannot be made, for situations such as inclement weather or an emergency, the reason for missing the patrol will be documented in the security logbook. In addition to the security officers, WIPP facility employees are called upon to challenge any person in the WIPP facility who is not wearing a badge or who is not under escort when an escort is required. Further physical protection is provided by fences, protective lighting, and locked buildings.*

**COMMENT 236: Attachment C-1a(2)(b), Page C-2, Line 36 to 42**

**A. Draft Permit Module or Attachment Text**

*For the purposes of entry control to areas where wastes are being handled, the Waste Handling Building Container Storage Unit (WHB Unit), the boundaries of the Parking Area Unit south of the WHB, and those portions of the underground where wastes are transported or disposed are posted as Controlled Areas (CAs). The WIPP allows access to a CA by anyone who has successfully completed General Employee Radiological Training, which is included in the General Employee Training Course. Access for visitors can also be arranged with proper training.*

**B. Discussion of the Draft Permit Condition**

The permit needs to be modified to correctly reflect the definition of Controlled Areas (CAs). Radiological Control Areas are defined by 10 C.F.R. Part 835.

**C. Proposed Revision to the Draft Permit**

**1. Attachment C-1a(2)(b), Page C-2, Line 36 to 42**

*For the purposes of entry control to areas where wastes are being handled, the Waste Handling Building Container Storage Unit (**WHB Unit**), the boundaries of the Parking Area Unit south of the WHB, and those portions of the underground where wastes are ~~transported or disposed~~ are posted as Controlled Areas (**CAs**). The WIPP allows access to a CA by anyone who has successfully completed General Employee Radiological Training, which is included in the General Employee Training Course. Access for visitors can also be arranged with proper training.*

**2. Attachment C, Page C-1, Line 28**

Footnote:

*The active portion of the facility is the Property Protection Area (**PPA**) as described in Permit Module III. Within this area, the only area where transuranic (**TRU**) mixed wastes are handled outside of the Transuranic Package Transporter, Type II (**TRUPACT-II**) shipping container is inside the Waste Handling Building (**WHB**), the waste hoist, and the underground. Whenever TRU mixed waste is handled, a Radiological-Controlled Area (**CA**) is established, for the purpose of radiation protection, which limits access to only trained personnel or to untrained personnel (visitors) who are continuously under the escort of trained personnel. CAs are established in*

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accordance with the *WIPP Radiation Safety* Department of Energy's (**DOE**) Radiological Control Manual and are managed to limit the radiation exposure to personnel to less than 100 millirem per year. The CA is initially set at the entrances to the Parking Area Container Storage Unit (Parking Area Unit), Waste Handling Building Container Storage Unit (WHB Unit) Bay, and portions of the underground. The boundary of the CA is posted with signs as specified by the Permittees.

### **3. Attachment F, Page F-7, Line 5**

The area extending south from the WHB within the fenced enclosure identified as the *Controlled Area* Radiological Control Area on Figure M1-2 is defined as the Parking Area Container Storage Unit. This area provides space for 12 loaded TRUPACT-IIs corresponding to 1,591 ft<sup>3</sup> (45 m<sup>3</sup>) of CH TRU mixed waste. Secondary containment and protection of the waste containers from standing rainwater are provided by the transportation containers.

**COMMENT 237: Attachment D-1, Page D-1, Lines 34 to 35, and Page D-2, Lines 1 to 4**

**A. Draft Permit Module or Attachment Text**

*Waste handling equipment and area inspections are typically controlled through established logbooks. Operators are trained to consult the logbook to identify the status of any piece of waste handling equipment prior to its use. Once a piece of equipment is identified to be operable, a preoperational inspection is initiated in accordance with the appropriate sheet in Permit Attachment D1. Inspection results as described below are entered in the applicable logbook.*

**B. Discussion of the Draft Permit Condition**

The permit text should be updated to reflect that area inspections may be governed by established procedures instead of logbooks.

**C. Proposed Revision to the Draft Permit**

**1. Attachment D, Page D-1, Lines 34 to 35, and Page D-2, Lines 1 to 4**

*Waste handling equipment and area inspections are typically controlled through established **procedures and the results are recorded in logbooks or on data sheets**. Operators are trained to consult the logbook to identify the status of any piece of waste handling equipment prior to its use. Once a piece of equipment is identified to be operable, a preoperational inspection is initiated in accordance with the appropriate sheet in Permit Attachment D1. Inspection results as described below are entered in the applicable logbook or datasheet.*

COMMENT 238: Attachment D-1, Page D-2, Lines 30 to 42, and Page D-3, Lines 1 to 12

A. Draft Permit Module or Attachment Text

*Requirements of 20 NMAC 4.1.500 (incorporating 40 CFR §264.15(d)), are met by the inspections for each item or system included in Table D-1. The results of the inspections are maintained for at least three years. The inspection logs include the date and time of inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. Major pieces of waste handling equipment use proceduralized inspections as shown in Permit Attachment D1. The status of these pieces of equipment is maintained in an equipment logbook that is separate from the checklist. The logbook contains information regarding the condition of the equipment, including the number of any AR that has been prepared for the equipment. Equipment operators are required, by the inspection checklist, to consult the logbook as the first activity in the inspection procedure. This logbook is maintained in the operating record. Equipment that is controlled by a logbook includes the waste handling fork lifts, all waste handling cranes, the adjustable center of gravity lift fixture, the CH transuranic (TRU) underground transporter, the conveyance loading car, the trailer jockey, **and** the Brudi, ~~and underground openings, roof bolts, and travelways.~~ In addition to the inspections listed in Table D-1, many pieces of equipment are subject to regular preventive maintenance. This includes more in-depth inspections of mechanical systems, load testing of lifting systems, calibration of measurement equipment and other actions as recommended by the equipment manufacturer or as required by DOE Orders. These preventive maintenance activities along with the inspections in Table D-1 make mechanical failure of waste handling equipment unlikely. The WIPP Safety Analysis Report (DOE, 1995a) contains the results of a systematic analysis of waste handling equipment and the hazards associated with **potential** mechanical failures. ~~Those~~ **Equipment subject to failures** that cannot be practically **be** mitigated ~~are~~ **is** retained for analysis and are the basis for contingency planning. ~~The forms~~ **documents** in Permit Attachment D1 are primarily for **operational and** preventive maintenance, to assure the equipment is maintained ~~operational~~.*

B. Discussion of the Draft Permit Condition

The permit should be clarified by deleting language surrounding action request (AR) numbers. Repairs which are reported on inspection forms may be initiated by First Requests or Action Requests, neither of which are assigned numbers. To meet the RCRA inspection requirements, inspectors record the repairs and remedial actions

which are conducted on the inspection logs or checklists.

**C. Proposed Revision to the Draft Permit**

**1. Attachment D-1, Page D-2, Lines 30 to 42, and Page D-3, Lines 1 to 12**

*Requirements of 20 NMAC 4.1.500 (incorporating 40 CFR §264.15(d)), are met by the inspections for each item or system included in Table D-1. The results of the inspections are maintained for at least three years. The inspection logs include the date and time of inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. Major pieces of waste handling equipment use proceduralized inspections as shown in Permit Attachment D1. The status of these pieces of equipment is maintained in an equipment logbook that is separate from the checklist. The logbook contains information regarding the condition of the equipment, ~~including the number of any AR that has been prepared for the equipment.~~ Equipment operators are required, by the inspection checklist, to consult the logbook as the first activity in the inspection procedure. This logbook is maintained in the operating record. Equipment that is controlled by a logbook includes the waste handling fork lifts, all waste handling cranes, the adjustable center of gravity lift fixture, the CH transuranic (TRU) underground transporter, the conveyance loading car, the trailer jockey, and the Brudi. In addition to the inspections listed in Table D-1, many pieces of equipment are subject to regular preventive maintenance. This includes more in-depth inspections of mechanical systems, load testing of lifting systems, calibration of measurement equipment and other actions as recommended by the equipment manufacturer or as required by DOE Orders. These preventive maintenance activities along with the inspections in Table D-1 make mechanical failure of waste handling equipment unlikely. The WIPP Safety Analysis Report (DOE, 1995a) contains the results of a systematic analysis of waste handling equipment and the hazards associated with potential mechanical failures. Equipment subject to failures that cannot practically be mitigated is retained for analysis and are the basis for contingency planning. The documents in Permit Attachment D1 are for operational and preventive maintenance, to assure the equipment is maintained.*



**COMMENT 239: Attachment D, Table D-1, Page D-10, Line 3**

**A. Draft Permit Module or Attachment Text**

Fire Hydrants	Emergency Management	Monthly/ quarterly See List 11	Yes	Yes	NA
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**B. Discussion of the Draft Permit Condition**

Table D-1 should be consistent with the Attachment D1 data sheet which indicates that fire hydrant inspections are conducted semi-annually and annually.

**C. Proposed Revision to the Draft Permit**

**1. Attachment D, Table D-1, Page D-10, Line 3**

<i>Fire Hydrants</i>	<i>Emergency Management</i>	<i>Semi-Annually/Annually</i> <del><i>Monthly/quarterly</i></del> <i>See List 11</i>	Yes	Yes	NA
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**COMMENT 240: Attachment D, Table D-1, Page D-10, Lines 21 to 27**

**A. Draft Permit Module or Attachment Text**

Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): —Self-Contained Breathing Apparatus	Emergency Management	Weekly See List 11	Yes	NA	NA
	Industrial Safety	Quarterly See List 2a	Yes	NA	NA

**B. Discussion of the Draft Permit Condition**

The permit should be modified to reflect that weekly inspections are performed on the SCBAs by Emergency Management. Although a quarterly inspection is performed by Industrial Safety, it is an oversight function only. The weekly inspections performed by Emergency Management are the essential inspections, that should be contained in Attachment D.

**C. Proposed Revision to the Draft Permit**

**1. Attachment D, Table D-1, Page D-10, Lines 21 to 27**

Personal Protective Equipment (not otherwise contained in emergency vehicles or issued to individuals): —Self-Contained Breathing Apparatus	Emergency Management	Weekly See List 11	Yes	NA	NA
	Industrial Safety	Quarterly See List 2a	Yes	NA	NA

**COMMENT 241: Attachment D, TABLE D-2, Page D-15, Lines 7 to 16**

**A. Draft Permit Module or Attachment Text**

- ~~a~~ ~~Equipment is listed as Radiation Monitoring Equipment in Table D-1.~~
- b **Equipment is listed as Underground-Geomechanical Instrumentation System (GIS) in Table D-1.**
- c **Radiation Monitoring Equipment in Table D-1.**
- d **Equipment listed as ~~Standby/Emergency Power Backup~~ **Power Supply Diesel Generator** in Table D-1.**
- e **Equipment listed as Fire Detection and Alarm System in Table D-1.**
- f **Equipment listed as Ventilation Exhaust in Table D-1.**
- g **Not RCRA equipment.**
- h **Equipment listed as Fire Pumps in Table D-1.**
- i **Equipment listed as Water Tank Level in Table D-1.**
- j **Equipment listed as Waste Hoist in Table D-1.**

**B. Discussion of the Draft Permit Condition**

The permit should be modified to remove an inconsistent approach to radiation monitoring equipment. The Second Draft deleted Radiation Monitoring Equipment from Table D-1 and from the text in Attachment D-1a(3). However, Table D-2 and Attachment D1 still reference this equipment. References to Radiation monitoring equipment should be removed from Table D-2 and the inspection forms should be removed from Attachment D1.

**C. Proposed Revision to the Draft Permit**

**1. Attachment D, Table D-2, Page D-15, Lines 7 to 16**

- b **Equipment is listed as Underground-Geomechanical Instrumentation System (GIS) in Table D-1.**
- c ~~Radiation Monitoring Equipment in Table D-1.~~
- d **Equipment listed as Backup Power Supply Diesel Generator in Table D-1.**
- e **Equipment listed as Fire Detection and Alarm System in Table D-1.**
- f **Equipment listed as Ventilation Exhaust in Table D-1.**
- g **Not RCRA equipment.**
- h **Equipment listed as Fire Pumps in Table D-1.**
- i **Equipment listed as Water Tank Level in Table D-1.**
- j **Equipment listed as Waste Hoist in Table D-1.**

**2. Attachment D1, Table of Contents, Line 1**

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CH TRU Waste Handling

Air-Intake Shaft Hoist

Ambulances and Related Emergency Supplies and Equipment

- Surface Ambulance
- Underground Ambulances

Adjustable Center of Gravity Lift Fixture

Backup Power Supply Diesel Generators

Facility Inspections

Central Monitoring System

CH TRU Underground Transporter

Conveyance Loading Car

Exhaust Shaft

Eye Wash and Shower Equipment

Fire Detection and Alarm System

Fire Extinguishers

Fire Hose Inspection Record

Fire Hydrants

Fire Pumps

Fire Sprinkler Systems

Fire Trucks

Fork Lifts Used for Waste Handling

Hazardous Material Response Equipment

Miners First Aid Station

Mine Pager Phones

MSHA Air Quality Monitoring

Perimeter Fence, Gates, and Signs

Personal Protective Equipment

Public Address

~~Radiation Monitoring Equipment~~

Radio Equipment

Rescue Truck

- Surface R.T.
- Underground R.T.

Salt-Handling Shaft

Self Rescuers

**3. Attachment D1, Inspection forms - “Radiation Monitoring Equipment”**

Remove the cover sheet for “Radiation Monitoring Equipment” and forms WP 12-HP1300, Attachments 1, 2, and 6 from Attachment D1.

**COMMENT 242: Attachment D1, Page Surface TRU Mixed Waste Handling Area**

**A. Draft Permit Module or Attachment Text**

**Surface TRU Mixed Waste Handling Area**

**B. Discussion of the Draft Permit Condition**

The inspections for the trailer parking area, off-normal CH container storage area, and decontamination equipment were not included in Attachment D1.

**C. Proposed Revisions to the Draft Permit**

**1. Attachment D1, Page Surface TRU Mixed Waste Handling Area**

*Add Attachments 2, 3, and 6 from WIPP Procedure WP 05-WH1101 attached.*

**COMMENT 243: Attachment E-1a(4), Pages E-4, Lines 31 to 39, and Page E-5, Lines 1 to 6**

**A. Draft Permit Module or Attachment Text**

*At the WIPP facility, the water enters a pair of 180,000-gal (681,372-L) aboveground storage tanks located adjacent to the Pumphouse. These tanks are 32 ft (9.75 m) in diameter and are constructed of welded steel. The water level in each tank is monitored in the CMR. Of the 360,000-gal (1,362,744-L) total capacity, about 160,000 gal (605,664 L) (80,000 gal [302,832 L] per tank) are designated for storage of a two-day supply of domestic water. At least 180,000 gal (681,372 L) of the remaining 200,000 gal (757,080 L) of water are dedicated to fire suppression and are sufficient to handle the maximum credible fire. Separate sets of pumps for the domestic water and fire-water systems are provided in the Pumphouse. During a fire, the fire-water pump is automatically started, and available domestic water is used first. Upon depletion of the domestic-water inventory, the domestic-water pumps are automatically shut off, and the dedicated fire-water reserve is available for fire-suppression use only. The primary fire-water pump is a 100-percent-capacity electric pump. A 100-percent-capacity diesel fire-water pump provides backup in case of a power failure or when maintenance is required on the electric pump. Each fire-water pump is rated at 1,500 gal (5,678 L) per minute at 125 pounds (lb) (56.7 kilograms [kg]) per square in.*

**B. Discussion of the Draft Permit Condition**

The permit needs to be updated to reflect how the two water storage tanks are used by the firewater and domestic water systems. The firewater system (non-potable) was cross-connected with the Domestic Water System (potable) at the two water storage tanks. To eliminate this cross-connect and protect the system with approved backflow devices in compliance with New Mexico Drinking Water Regulation, 20 NMAC 7.1, Part I, Subpart II, Section 208 I, the two tanks have been split between the systems. One tank is dedicated for use by the firewater system for fire suppression. The other tank is normally used by the domestic water system, however, the tank, and its firewater reserve, will be made available for use by the firewater system if plant conditions warrant.

**C. Proposed Revision to the Draft Permit**

**1. Attachment E-1a(4), Pages E-4, Lines 31 to 39 and Page E-5, Lines 1 to 2**

At the WIPP facility, the water enters a pair of 180,000-gal (681,372-L) aboveground

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storage tanks located adjacent to the Pumphouse. These tanks are 32 ft (9.75 m) in diameter and are constructed of welded steel. The water level in each tank is monitored in the CMR. ~~Of the 360,000-gal (1,362,744 L) total capacity, about 160,000 gal (605,664 L) (80,000 gal [302,832 L] per tank) are designated for storage of a two-day supply of domestic water. At least 180,000 gal (681,372 L) of the remaining 200,000 gal (757,080 L) of water are dedicated to fire suppression and are sufficient to handle the maximum credible fire. Separate sets of pumps for the domestic water and fire-water systems are provided in the Pumphouse.~~ **One tank stores water for use by the facility's domestic water system. The other tank stores water for use by the facility's domestic water system, and to reserve approximately 100,000 gal (378,540 L) of water for use by the firewater system. Separate sets of pumps for the domestic water and firewater systems are provided in the Pumphouse.** During a fire, the fire-water pump is automatically started, and available domestic water is used first. Upon depletion of the domestic-water inventory, the domestic-water pumps are automatically shut off, and the dedicated fire-water reserve is available for fire-suppression use only. The primary fire-water pump is a 100-percent-capacity electric pump. A 100-percent-capacity diesel fire-water pump provides backup in case of a power failure or when maintenance is required on the electric pump. Each fire-water pump is rated at 1,500 gal (5,678 L) per minute at 125 pounds (lb) (56.7 kilograms [kg]) per square in.

**2. Attachment F, Table F-6, Page F-61, Lines 2 and 3**

Water Tanks, Hydrants	<p><del>Fire suppression water supply; two 180,000-gallon capacity each with a minimum of 90,000 gallons for fire suppression</del></p> <p><b>Fire suppression water supply: one 180,000 gallon capacity tank, plus a second tank with 100,000 gallon reserve</b></p>	Tanks are at southwestern edge of WIPP facility; pipelines and hydrants are throughout the surface
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**3. Attachment F, FIGURE F-6, Page F-56.**

Revised Figure is attached to the end of these comments.

**COMMENT 244: Attachment F-1, Page F-2, Lines 15 to 19**

**A. Draft Permit Module or Attachment Text**

*Transuranic Package Transporter-II (TRUPACT-II) Maintenance Facility - located west of the CH bay, houses equipment required for conducting preventive maintenance and other activities required by the Nuclear Regulatory Commission (NRC) to maintain the Certificate of Compliance. No TRU mixed waste management activities will occur in this facility.*

**B. Discussion of the Draft Permit Condition**

The description of the TRUPACT-II Maintenance Facility (TMF) should be updated. The new description should reflect the current usage of the TMF. At the time the Permittees submitted the original permit application, maintenance of TRUPACT-IIs required by the NRC to maintain the Certificate of Compliance was to be accomplished at the TMF. However, this activity has been contracted to an off-site contractor and is now being performed at an off-site facility.

**C. Proposed Revision to the Draft Permit**

**1. Attachment F-1, Page F-2, Lines 15 to 19**

Transuranic Package Transporter-II (**TRUPACT-II**) Maintenance Facility - located west of the CH bay, houses **waste handling personnel. This facility is also used for training and minor maintenance, such as TRUPACT-II O-ring replacement.** ~~equipment required for conducting preventive maintenance and other activities required by the Nuclear Regulatory Commission (NRC) to maintain the Certificate of Compliance. No TRU mixed waste management activities will occur in this facility.~~



**COMMENT 245: Attachment F-2, Page F-8, Lines 17 to 22**

**A. Draft Permit Module or Attachment Text**

*A RCRA Emergency Coordinator will be on-site at the WIPP facility 24 hours a day, seven days a week, with the responsibility for coordinating emergency response measures. RCRA Emergency Coordinators are listed in Table F-2, where five individuals have been designated primary RCRA Emergency Coordinators. This is because the on-duty Facility Shift Manager (FSM) is designated as the RCRA Emergency Coordinator. The five individuals shown serve as FSM on a rotating shift basis.*

**B. Discussion of the Draft Permit Condition**

The permit should be updated to reflect that there are four individuals serving as the primary RCRA Emergency Coordinator.

**C. Proposed Revision to the Draft Permit**

**1. Attachment F-2, Page F-8, Lines 17 to 22**

A RCRA Emergency Coordinator will be on-site at the WIPP facility 24 hours a day, seven days a week, with the responsibility for coordinating emergency response measures. RCRA Emergency Coordinators are listed in Table F-2, where **four** five individuals have been designated primary RCRA Emergency Coordinators. This is because the on-duty Facility Shift Manager (**FSM**) is designated as the RCRA Emergency Coordinator. The **four** five individuals shown serve as FSM on a rotating shift basis.

**COMMENT 246: Attachment F-2, Page F-9, Line 21 to 26**

**A. Draft Permit Module or Attachment Text**

- ***First Line Initial Response Team (FLIRT)—Supplemental primary responders in the event of a general underground emergency for medical and hazardous material response. No fire response beyond incipient stage will be performed in the underground by the FLIRT. The FLIRT also provides backup support for the ERT in the event of a general surface-facility emergency. FLIRT members are part of the WIPP Supplemental Emergency Response Program.***

**B. Discussion of the Draft Permit Condition**

A description should be added to the permit for the "Fire Brigade." Adding this will clarify the availability of the proper number of fire fighting personnel and their associated roles. This will also meet the requirements of DOE Orders 151.1, 420.1 and 440.1.

**C. Proposed Revision to the Draft Permit**

**1. Attachment F-2, Page F-9, Line 21 to 26**

- ***Fire Brigade - The fire brigade is a team of five personnel who respond to site emergencies. The team consists of an Incident Commander and four fire fighters. The fire fighters are trained in accordance with NFPA Standards for Industrial Fire Brigades (Fire Brigades that perform both advanced exterior and interior structural fire fighting).***
- ***First Line Initial Response Team (FLIRT)—Supplemental primary responders in the event of a general underground emergency for medical and hazardous material response. No fire response beyond incipient stage will be performed in the underground by the FLIRT. The FLIRT also provides backup support for the ERT in the event of a general surface-facility emergency. FLIRT members are part of the WIPP Supplemental Emergency Response Program.***

**COMMENT 247: Attachment F-2, Page F-9, Line 12 to 20**

**A. Draft Permit Module or Attachment Text**

- ***Emergency Services Technician (EST)**—Regular employee whose job is that of full-time emergency responder. The EST acts as incident commander (on-scene coordinator) for all emergency response events. During non-emergency conditions, the EST conducts inspections of facility fire suppression systems, inspects **and** emergency equipment, and trains supplemental emergency responders commensurate with duties to be performed. The EST is responsible for completion of **completes** specific sections of the "WIPP Hazardous Material Incident Report." Additional technical personnel complete identified sections of the report.*

**B. Discussion of the Draft Permit Condition**

The permit needs to be updated to reflect that the Fire Protection Technician (FPT) is also an emergency responder. Wherever ESTs are addressed in the Permit, FPTs should also be addressed (i.e., revising EST to read EST/FPT). ESTs and FPTs share around-the-clock response duties. Also, the permit should be updated to reflect that the EST does not train supplemental emergency responders. Technical Training now performs this function.

**C. Proposed Revision to the Draft Permit**

**1. Attachment F-2, Page F-9, Lines 12 to 20**

- ***Emergency Services Technician (EST)/Fire Protection Technician(FPT)**—Regular employee whose job is that of full-time emergency responder. During non-emergency conditions, the EST/FPT inspects facility fire suppression systems and emergency equipment, and trains supplemental emergency responders commensurate with duties to be performed. The EST/FPT completes specific sections of the "WIPP Hazardous Material Incident Report." Additional technical personnel complete identified sections of the report.*

**COMMENT 248: Attachment F, Table F-2, Page F-52, Lines 1 to 20**

**A. Draft Permit Module or Attachment Text**

**TABLE F-2  
RESOURCE CONSERVATION AND RECOVERY ACT  
EMERGENCY COORDINATORS**

<i>Name</i>	<i>Address*</i>	<i>Office Phone</i>	<i>Home Phone*</i>
<i>G. A. (Gerry) Burns (primary)<sup>1</sup></i>		<i>234-8276 or 234-8635</i>	
<i>R. A. (Richard) Marshall (primary)<sup>1</sup></i>		<i>234-8276 or 234-8695</i>	
<i>R. E. (Bob) Wade (primary)<sup>1</sup></i>		<i>234-8272</i>	
<i>T. J. (Tim) Wygant (primary)<sup>1</sup></i>		<i>234-8276 or 234-8377</i>	
<i>B. J. (James) VanWinkle<sup>2</sup></i>		<i>234-8276</i>	
<i>G. L. (Garrod) Ashford<sup>2</sup></i>		<i>234-8272</i>	
<i>R. C. (Russ) Stroble<sup>2</sup></i>		<i>234-8554</i>	
<i>E. R. (Ed) Flynn<sup>2</sup></i>		<i>234-8272 or 234-8276</i>	
<i>G. L. (Gary) Kessler<sup>2</sup></i>		<i>234-8326</i>	
<i>A. E. (Alvy) Williams<sup>2</sup></i>		<i>234-8216 or 234-8276</i>	
<i>K. (Kim) Jackson<sup>2</sup></i>		<i>234-8272 or 234-8276</i>	

**\*NOTE: Personal information (home addresses and phone numbers) has been removed from information copies of this application.**

**<sup>1</sup> The on-duty Facility Shift Manager is the primary RCRA Emergency Coordinator pursuant to 20 NMAC 4.1.500 (incorporating 40 CFR §264.52), and is designated to serve as the RCRA Emergency Coordinator.**

**<sup>2</sup> The on-duty Facility Operations Engineer is the alternate RCRA Emergency Coordinator and is available as needed.**

**B. Discussion of the Draft Permit Condition**

The permit table containing WIPP's RCRA Emergency Coordinator should be updated to reflect the current organization.

**C. Proposed Revision to the Draft Permit**

**1. Attachment F, TABLE F-2, Page F-52**

An updated list of Emergency Coordinators is attached.

**COMMENT 249: Attachment F, Table F-6, Page F-56, Line 6 and Page F-61, Line 1**

**A. Draft Permit Module or Attachment Text**

Building Fire Alarms	Manual and automatic; activation of automatic sprinkler system triggers fire alarm; locally audible, visual display and alarm in Central Monitoring Room (CMR)	Guard and Security Building, Pumphouse, Warehouse/Shops, Exhaust Filter Building, Support Building, CMR/ Computer Room, Waste Handling Building, TRUPACT Maintenance Facility, <del>Salt Handling (SH) Shaft Station, Waste Shaft Station, Underground Fuel Station</del> , SH Hoisthouse, Maintenance Shops, Guard Shack*, Auxiliary Warehouse, Core Storage Building, Engineering Building, Training Facility, Safety Building, <b>Maintenance Shop</b>  *local alarms; not connected to the CMR
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Sprinkler Systems	Fire alarms activated by water flow	Pumphouse, Guard and Security Building, Support Building, Waste Handling Building (contact- transuranic waste area only), Warehouse/Shops Building, Auxiliary Warehouse Building, TRUPACT Maintenance Facility, Training Facility, SH Shaft Station, Exhaust Filter Building, Engineering Building, and Safety Building
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**B. Discussion of the Draft Permit Condition**

The permit needs to be updated to be internally consistent and reflect current fire suppression system capabilities.

**C. Proposed Revision to the Draft Permit**

**1. Attachment F, Table F-6, Page F-56, Line 6**

**DOE/WID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

<p>Building Fire Alarms</p>	<p>Manual <b>pull stations</b> and automatic <b>devices (sprinkler system flow, and smoke and thermal detectors)</b>; <del>activation of automatic sprinkler system</del> triggers fire alarm; locally <b>visible and audible</b>; visual display and <b>audible</b> alarm in Central Monitoring Room (CMR)</p>	<p>Guard and Security Building, Pumphouse, Warehouse/Shops, Exhaust Filter Building, Support Building, CMR/ Computer Room, Waste Handling Building, TRUPACT Maintenance Facility, SH Hoisthouse, Maintenance Shops, Guard Shack*, Auxiliary Warehouse, Core Storage Building, Engineering Building, Training Facility, Safety Building, Maintenance Shop, <b>Hazardous Waste Storage (non-TRU) Area (Facility 474)</b></p> <p>*local alarms; not connected to the CMR</p>
<p>Sprinkler Systems</p>	<p>Fire alarms activated by water flow</p>	<p>Pumphouse, Guard and Security Building, Support Building, Waste Handling Building (<del>contact-transuranic waste area only</del>), Warehouse/Shops Building, Auxiliary Warehouse Building, TRUPACT Maintenance Facility, Training Facility, SH Shaft Station, Exhaust Filter Building, Engineering Building, and Safety Building</p>

**2. Attachment E-2a, Page E-8, Lines 16 to 17**

The hoist is protected by a fixed automatic fire suppression system. Portable fire extinguishers are also provided ~~at several points~~ on the hoist floor and in equipment areas.

**COMMENT 250: Attachment F, Figure F-1, Page F-77**

**A. Discussion of the Draft Permit Condition**

Figure F-1 should be updated to reflect removal of facility 252 and the highlighted trailers.

**B. Proposed Revision to the Draft Permit**

**1. Attachment F, Figure F-1, Page F-77**

Replace Figure F-1 with the updated drawing attached.

**2. Attachment F, Figure F-1a, Page F-78**

Replace Figure F-1a with the updated legend attached.



**COMMENT 251: Attachment G, Page G-13, Figure G-3,**

**A. Discussion of the Draft Permit Condition**

Figure G-3 should be updated because it contains an outdated layout of the Waste Handling Building.

**B. Proposed Revision to the Draft Permit**

**1. Attachment G, Page G-13, Figure G-3**

Replace Figure G-3 with the updated figure attached.

**COMMENT 252: Attachment H, Page H-13, Figure H-1**

**A. Discussion of the Draft Permit Condition**

The permit should be modified because it incorrectly denotes one of the positions as "Waste Hoisting Supervisor" instead of "Waste Hoisting Manager."

This position title should be listed as Waste Hoisting Manager to indicate the current position and to avoid confusion on the current qualification/training status of the Manager.

**B. Proposed Revision to the Draft Permit**

**1. Attachment H, Page H-13, Figure H-1, Page H-13**

Item 20 - Revise line to read: "Waste Hoisting Manager"

**2. Attachment H1, Page H1-25, Line 4**

**Position Title:** Waste Hoisting ~~Manager~~ Supervisor

**3. Attachment H1, Page H1-1, Line 24**

Waste Hoisting ~~Manager~~ Supervisor

**COMMENT 253: Attachment H1**

**A. Discussion**

The permit should be modified to add a new position to Attachment H1, entitled "Hazardous Waste Worker." The Hazardous Waste Worker performs hazardous waste operations in accordance with WIPP procedures; must be an academic or vocational high school graduate, or equivalent; and must successfully complete GET 19X and HWW 101/102.

WIPP training requirements for hazardous waste management positions exceed those required by other TSDFs and the regulations. Some Hazardous Waste Management positions cannot be qualified in under 6-months due to the unique nature of the facility and the number of individual qualifications called for.

By adding the position "Hazardous Waste Worker" WIPP will be allowed to continue training individuals for hazardous waste management while letting those individuals perform duties not associated with hazardous waste management before being elevated to a hazardous waste management position.

**B. Proposed Revision to the Draft Permit**

**1. Attachment H1**

Add the new position description for Hazardous Waste Worker to Attachment H1 attached.

**2. Attachment H1, Page H1-1**

Add a new line for "Hazardous Waste Worker" as the first line in the Table.

*Hazardous Waste Worker*

**COMMENT 254: Attachment H1, Page H1-13, Lines 8 to 13**

**A. Draft Permit Module or Attachment Text**

- *Responds to hazardous waste spills in emergency situations*
- *Provides emergency fire-response services*
- *Conducts routine inspections and maintains all response equipment on site*
- *Serves as incident commander*
- *Directs emergency teams to control hazardous situations*

**B. Discussion of the Draft Permit Condition**

The permit should be updated to reflect that the Emergency Services Technician is not the incident commander.

**C. Proposed Revision to the Draft Permit**

**1. Attachment H1, Page H1-13, Lines 8 to 13**

- Responds to hazardous waste spills in emergency situations
- Provides emergency fire-response services
- Conducts routine inspections and maintains all response equipment on site
- ~~Serves as incident commander~~
- Directs emergency teams to control hazardous situations

**COMMENT 255: Attachment H1, Page H1-21, Lines 21 to 22**

**A. Draft Permit Module or Attachment Text**

- **Facility Operations Shift Supervisor-Certification Qualification Card (OF-FOSS-3 or OF-FOSS-3R)**

**B. Discussion of the Draft Permit Condition**

The proposed revisions should be incorporated in the permit because the position title Facility Operations Shift Engineer has superseded the previous title "Facility Operations Shift Supervisor." The associated acronym has also been revised from "FOSS" to "FOSE." Several places in the permit text should be revised to reflect this change. In parts of the permit, including sections of Attachment H2, this change has already been made. In some cases, making this change will be important to clarifying which qualification card is used by the FOSEs and which is used by the Facility Shift Managers.

**C. Proposed Revision to the Draft Permit**

**1. Attachment H1, Page H1-21, Lines 21 to 22**

- Facility Operations Shift Supervisor Qualification Card (OF-FOSE~~S~~-3 or OF-FOSE~~S~~-3R)

**2. Attachment H2, Page H2-ii, Table of Contents.**

Facility Operations Shift Supervisor-Engineer.....H2-136

**3. Attachment H2, Page H2-132, Line 14**

**SCOPE:** The Facility Operations Roving Watch qualification is the foundation for all of the Facility Operations qualifications. The qualifications developed utilizing the Facility Operations Roving Watch qualification are the Central Monitoring Room Operator Qualification (OF-CMRO-2) and the Facility Operations Shift Engineer Supervisor Qualification (OF-FOSE~~S~~-3) (for FSM). This qualification is used by all Facility Operations personnel qualifying. All of the requirements of the applicable qualifications must be completed by the candidate before operating any equipment or performing any operating evolutions without direct supervision of a qualified operator.

**4. Attachment H2, Page H2-134, Lines 11 to 12**

**SCOPE:** The Facility Operations Central Monitoring Room Operator Qualification (OF-CMRO-2) in conjunction with the Roving Watch qualification make up the support for the Facility Operations Shift Supervisor-Engineer Qualification (OF-FOSE~~S~~-3). This qualification is used by Facility Operations personnel qualifying as CMR operators or Facility Operations Shift Supervisors.

**COMMENT 256: Attachment H1, Page H1-29, Line 39**

**DOEWID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

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**A. Draft Permit Module or Attachment Text**

- *Eight hours of monthly training*

**B. Discussion of the Draft Permit Condition**

The permit should be consistent with the National Fire Protection Association's requirement that fire fighters receive 8 hours of fire fighter training quarterly. The permit incorrectly indicates that this 8 hours of training is to be provided monthly.

**C. Proposed Revision to the Draft Permit**

**1. Attachment H1, Page H1-29, Line 39**

- Eight hours of ~~monthly~~ training **quarterly**

**COMMENT 257: Attachment H2**

**B. Discussion of the Draft Permit Condition**

To complete the training plan given in Attachment H2, the permit should add a qualification card for the Fire Protection Technician (FPT-01). The Fire Protection Technician may be on duty instead of the EST as needed to cover for vacations, sickness, or other absences.

**C. Proposed Revision to the Draft Permit**

**1. Attachment H2.**

Add the qualification card for the FPT to Appendix H2 attached.

**COMMENT 258: Attachment H2, Page H2-31, Lines 4 to 7**

**A. Draft Permit Module or Attachment Text**

**SCOPE:** *The instructor will present radiological theory and practical information necessary to allow unescorted entry into a controlled area, radioactive materials area, radiological buffer area, and radiation area as required by the DOE Radiological Control Manual.*

**B. Discussion of the Draft Permit Condition**

The reference in the permit to the DOE Radiological Control Manual should be changed to the WID Radiation Safety Manual. The WID Radiation Safety Manual is a contractual document between WID and the DOE whereas the DOE RadCon Manual is not.

**C. Proposed Revision to the Draft Permit**

**1. Attachment H2, Page H2-31, Lines 4 to 7**

**SCOPE:** *The instructor will present radiological theory and practical information necessary to allow unescorted entry into a controlled area, radioactive materials area, radiological buffer area, and radiation area as required by the **WID Radiation Safety** DOE Radiological Control Manual.*

**2. Attachment C, Page C-1, Line 30**

*The active portion of the facility is the Property Protection Area (**PPA**) as described in Permit Module III. Within this area, the only area where transuranic (**TRU**) mixed wastes are handled outside of the Transuranic Package Transporter, Type II (**TRUPACT-II**) shipping container is inside the Waste Handling Building (**WHB**), the waste hoist, and the underground. Whenever TRU mixed waste is handled, a Radiological Controlled Area (**CA**) is established, for the purpose of radiation protection, which limits access to only trained personnel or to untrained personnel (visitors) who are continuously under the escort of trained personnel. CAs are established in accordance with the **WIPP Radiation Safety** Department of Energy's (**DOE**) Radiological Control Manual and are managed to limit the radiation exposure to personnel to less than 100 millirem per year. The CA is initially set at the entrances to the Parking Area Container Storage Unit (Parking Area Unit), Waste Handling Building Container Storage Unit (WHB Unit) Bay, and portions of the underground. The boundary of the CA is posted with signs as specified by the Permittees.*



**COMMENT 259: Attachment H2, Page H2-150, Lines 1 to 12**

**A. Draft Permit Module or Attachment Text**

**3. *Equipment Practical***

*Perform normal startup and shutdown of all Waste Hoist systems.*

*Perform normal hoisting operations for material and personnel in all modes of operation.*

**4. *Classroom Training***

*Receive formal training in electrical safety.*

**5. *Required Reading***

*Read the appropriate related procedures for waste hoist operation.*

**6. *Oral Qualification Exam***

*This final portion of the ~~certification~~ **qualification** consists of an oral board exam conducted by board members who are knowledgeable in the ~~certification~~ **qualification** program areas.*

**B. Discussion of the Draft Permit Condition**

The requirement for an oral qualification exam should be deleted from the permit for the waste hoist operator and waste shaft tender positions.

The Waste Hoist Operator qualification consists of detailed training on the knowledge and skills required to operate the Waste Hoist. The trainee is also required to perform all tasks in an evaluation setting to demonstrate proficiency prior to becoming a qualified operator. The training requirements are based on the Systematic Approach to Training (SAT) Table-Top method approved by the Department of Energy.

The Waste Hoist Shaft Tender qualification consists of detailed training on the knowledge and skills required to operate controls and systems located at both the collar area and the station area. The trainee is also required to perform all tasks in an evaluation setting to demonstrate proficiency prior to becoming a qualified Shaft Tender.

The requirement for these oral qualification exams has not been justified based on the development, design, and implementation of a detailed qualification program resulting from the SAT process. Also, DOE Order 5480.20A does not identify these job positions

as requiring an oral board.

**C. Proposed Revision to the Draft Permit**

**1. Attachment H2, Page H2-150, Lines 1 to 12.**

**3. *Equipment Practical***

*Perform normal startup and shutdown of all Waste Hoist systems.*

*Perform normal hoisting operations for material and personnel in all modes of operation.*

**4. *Classroom Training***

*Receive formal training in electrical safety.*

**5. *Required Reading***

*Read the appropriate related procedures for waste hoist operation.*

~~6. *Oral Qualification Exam*~~

~~*This final portion of the qualification consists of an oral board exam conducted by board members who are knowledgeable in the qualification program areas.*~~

**2. Attachment H2, Page H2-152, Lines 7 to 9**

~~6. *Oral Qualification Exam*~~

~~*This final portion of the qualification consists of an oral board exam conducted by board members who are knowledgeable in the qualification program areas.*~~

**COMMENT 260: Attachment L, Page L-49, Table L-2, Line 1 to 11**

**A. Draft Permit Module or Attachment Text**

**TABLE L-2  
WIPP GROUND-WATER DETECTION MONITORING PROGRAM  
SAMPLE COLLECTION AND GROUND-WATER SURFACE ELEVATION MEASUREMENT FREQUENCY**

<i>Installation</i>	<i>Frequency</i>
<i>Ground-water Quality Sampling</i>	
<i>DMP monitoring wells</i>	<i>Semiannually</i>
<i>All other WIPP surveillance wells</i>	<i>On special request only</i>
<i>Ground-water Surface Elevation Monitoring</i>	
<i>DMP monitoring wells</i>	<i>Monthly and prior to sampling events</i>
<i>All other WIPP surveillance wells</i>	<i>Monthly</i>

**B. Discussion of the Draft Permit Condition**

Table L-2, line 11 refers to water level measurements, not sampling. WIPP measures levels in the entire well network on a monthly basis at each well pad.

**C. Proposed Revision to the Draft Permit**

**1. Attachment L, Table L-2, Page L-49, Lines 1 to 11**

**TABLE L-2  
WIPP GROUND-WATER DETECTION MONITORING PROGRAM  
SAMPLE COLLECTION AND GROUND-WATER SURFACE ELEVATION MEASUREMENT FREQUENCY**

Installation	Frequency
Ground-water Quality Sampling	
DMP monitoring wells	Semiannually
All other WIPP surveillance wells	On special request only
Ground-water Surface Elevation Monitoring	
DMP monitoring wells	Monthly and prior to sampling events
All other WIPP surveillance wells sites	Monthly
Redundant wells at all other WIPP surveillance well sites	Quarterly

**COMMENT 261: Attachment P, General Comment**

**A. Discussion**

Attachment P should be deleted from the Permit. The permit should not contain operational procedures which are subject to frequent revision. However, if the NMED chooses to retain permit Attachment P, the following changes should be made: (1) text should be added indicating that modifications of the attached procedures do not require the Permittees to obtain a modification to the permit; (2) an updated version of WP 02-EM3001, Administrative Processes for Environmental Monitoring Programs should replace the existing copy; (3) a new procedure, WP 02-EM3003, Nonradiological Data Validation and Verification, should be added which procedure strengthens the discussion of the verification and validation activities previously covered by WP 02-EM3001; (4) an updated version of WP 12 HP-1100, Radiological Surveys should be added. This procedure was revised to indicate new equipment being used and to clarify procedural steps used by the technicians in handling radiological assessment filters; and (5) a new procedure, WP 02RC.04, RCRA Training Documentation Procedure, should be added to ensure that WIPP's training policies and practices related to training delinquencies are reflected in the permit.

**B. Proposed Revision to the Draft Permit**

**1. Attachment P.**

Delete this attachment in its entirety.

## 5.0 EDITORIAL COMMENTS

### COMMENT 262: General Editorial Comments

#### A. Draft Permit Module or Attachment Text

Various Sections.

#### B. Discussion of the Draft Permit Condition

This comment addresses editorial changes to the draft permit. Corrections are provided for the following reasons:

1. Permit references are outdated and/or documents have been superseded;
2. Incorrect internal references to sections and section titles;
3. Inconsistencies and typographical errors;
4. Incorrect figures; and
5. Outdated or incorrect references to responsible parties.

The proposed revisions listed below are self explanatory.

#### C. Proposed Revision to the Draft Permit

##### 1. Attachment B, Page B-37, References, Line 3

Change "Revision 6.4" to "Revision 6.5"

##### 2. Attachment M2, Page M2-22, References, Line 2

Change "Re. 6.4" to "Revision 6.5"

##### 3. Attachment D, Page D-5, References, Line 33

Change "Rev. 1" to "Rev. 2"

##### 4. Attachment F, Page F-48, References, Line 9

Change "Rev. 0" to "Rev. 2"

##### 5. Module IV.B.1.b, Page IV-2

Change "II.C.2" to "II.C.3"

##### 6. Module IV.B.1.c, Page IV-2

Change "II.C.3" to "II.C.4"

##### 7. Module V, Page V-2, Table V.C.1: Well Locations

**DOE/WID COMMENTS ON THE 2<sup>nd</sup> DRAFT HAZARDOUS WASTE PERMIT FOR THE WIPP**

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Change "503774W" to "503774N"  
"505542W" to "503774N"  
"504030W" to "504030N"  
"495000W" to "495000N"  
"493666W" to "493666N"  
"494942W" to "494942N"  
"494969W" to "494969N"

**8. Attachment A**

Change "130 degrees 47' 30" W" to "103 degrees 47' 30"W"

**9. Attachment A-1, Page A-1, Line 11**

Change "Michael McFadden" to "Keith Klein".

**10. Attachment B, Page B-12, Line 27**

Replace "Attachment B3" with "Attachment B4".

**11. Attachment B, Page B-19, Line 17**

Change title to: "Homogeneous Waste Sampling and Analysis"

**12. Attachment B, Page B-28, Line 30**

Change "...Waste Operations..." to "...the Permittees..."

**13. Attachment B2, Page, B2-1, Line 7**

Revise title of B2-1 to read: "Visual Examination".

**14. Attachment B2, Page B2-6, Equation B2-9, Line 20**

Replace "UCL95" with "UCL90".

**15. Attachment B2, Page B2-5, Line 5**

Change "MDL" with "PRQL."

**16. Attachment B3, TABLE B3-4, Page B3-44**

Change superscript on pyridine to 'c'

**17. Attachment B3, TABLE B3-6, Page B3-47**

Change superscript on pyridine to 'c'

**18. Attachment B3, TABLE B3-6, Page B3-47**

In the footnote “b”, change “PQL” to read “PRQL”. This is a typographical error.

**19. Attachment B3, TABLE, B3-8, B3-50**

In the footnote “c” change “PQL” to read “PRQL”.

**20. Attachment B4, Page B4-19, Line 15**

Change “the Permittees shall manage, store, or dispose...” to “the Permittees shall not manage, store, or dispose...”

**21. Attachment B6, Page B6-2, Line 5**

Add “Permittees’ ” before “manager who oversees the audit program”

**22. Attachment D, Table D1, Page D-13, Lines 12-13**

Delete “List 7: Radiation Safety, Radiological Control Technician”

**23. Attachment D, Page D-4, Lines 37-38**

Change “Radiation Control Area” to “radiologically controlled areas” (small case letters)

**24. Attachment D, Page D-5, Line 1**

Change “RCA” to “radiologically controlled areas” (small case letters)

**25. Attachment M1, Page M1-25, and Attachment G, Page G-13**

Change Figures M1-1 and G-3 as shown in Fig. M1-13

## **ATTACHMENTS**



## **Attachments**

### **1. Replacement Inspection Forms for Attachment D1**

#### Exhaust Shaft

PM041099, Rev.2F1 Attachment 1

#### Fire Trucks

PM000033 Rev. 0F2 Attachments 1-5

#### Surface Ambulance

PM000030 Rev. 0F1 Attachment 1

#### Surface Rescue Truck and Equipment

PM000030 Rev. 0F1 Attachment 3

#### TRU Mixed Waste Decontamination Equipment

WP 05-WH1101 Attachments 6

#### Underground Ambulance

PM000030 Rev. 0F1 Attachment 2

#### Underground Openings Roof Bolts and Travelways

WP 04-AU1007 Rev.2, Chg. 2 Attachment 1

#### Ventilation Exhaust

IC041098, Rev. 2 Attachments 1-7

### **2. Additional Inspection Forms for Attachment D1**

#### Forklifts

WP 05-WH1412 Pages 3 and 4

#### Surface TRU Mixed Waste Handling Area

WP 05-WH1101 Attachments 2, and 3

### **3. Replacement Tables**

Table F-2 (one with and one without personnel phone numbers and addresses)

### **4. Replacement Figures**

Figure B-1

Figure F-1

Figure F-1a

Figure F-6

Figure G-3

Figure H-1

Figure M1-1

**5. Additional Job Description for Attachment H1**

Hazardous Waste Management Function Job Description for Hazardous Waste Worker

**6. Additional Qual Card for Attachment H2**

Emergency Management Fire Protection Technician Qualification Card Signature Record

**7. Replacement Procedures for Attachment P**

WP 02-EM3001

WP 12 HP1100

**8. Additional Procedure and Plan for Attachment P**

WP 02-EM3003

WP 02-RC.04