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FACT SHEET

April 27, 2010

**INTENT TO ISSUE A HAZARDOUS WASTE FACILITY PERMIT
UNDER THE NEW MEXICO HAZARDOUS WASTE ACT
WASTE ISOLATION PILOT PLANT
CARLSBAD, NEW MEXICO**

Facility Name: Waste Isolation Pilot Plant

EPA Identification Number: NM4890139088-TSDF

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GENERAL BACKGROUND

The New Mexico Environment Department (**Department** or **NMED**) intends to issue a hazardous waste facility permit (**Permit**) to the Waste Isolation Pilot Plant (**WIPP**, or the **Facility**) to manage, store, and dispose hazardous waste, and to close hazardous waste disposal units, in accordance with the New Mexico Hazardous Waste Act (**HWA**) and its implementing regulations. The Department is charged with issuing a permit that will ensure that WIPP's hazardous waste operations are managed in a manner protective of human health and the environment. Prior to issuing a permit, the Department is required by regulation to release a draft of the permit for public comment. The Department is also required to issue a fact sheet which serves two functions: 1) to facilitate public review of the draft permit; and 2) to provide the basis for any requirements not specified in state regulations. This is that Fact Sheet.

This Fact Sheet describes the general background for the draft Permit, including a physical description of WIPP, its hazardous waste activities, the draft Permit, how the public may be involved in the permitting process, and the technical and regulatory basis for permit requirements and conditions.

WIPP is located north of the Jal Highway (State Highway 128) in Eddy County, New Mexico, approximately 26 miles east of Carlsbad. WIPP is a hazardous waste facility currently operating under a Permit issued by the Department authorizing the management, storage, and disposal of transuranic (**TRU**) mixed waste at the Facility. Mixed waste is radioactive waste that is also a hazardous waste as defined by the HWA, and is thus subject to regulation by the Department. The U.S. Department of Energy Carlsbad Field Office (**DOE**) owns and operates the Facility, and Washington TRU Solutions LLC (**WTS**) co-operates the Facility. These entities are collectively referred to as "Permittees" or "WIPP" in the draft Permit and this fact sheet.

WIPP is a facility authorized by Congress for disposal of TRU waste materials generated by weapons development and other activities related to the nation's nuclear weapons arsenal. WIPP received a hazardous waste facility Permit from the Department in 1999 to dispose of TRU mixed waste containers 2150 feet below ground in a mined geologic repository within the Salado Formation. The containers of waste must undergo complete waste characterization by the generator/storage sites in compliance with requirements of the Permit prior to disposal. WIPP is permitted to accept contact-handled (**CH**) TRU waste containers with a surface dose of less than 200 millirem per hour that may be handled directly. WIPP is also permitted to accept remote-handled (**RH**) TRU waste containers with a surface dose of 200 millirem or greater that must be handled either remotely or with sufficient shielding to reduce the effective dose.

WIPP manages wastes that are regulated under the federal Resource Conservation and Recovery Act (**RCRA**), the New Mexico Hazardous Waste Act (Chapter 74, Article 4 NMSA 1978, or the **HWA**), and their implementing regulations. The draft Permit, when finalized, would allow WIPP to continue hazardous waste management operations in much the same manner as those authorized by the existing Permit, such as: requiring generator/storage sites to implement applicable waste characterization requirements prior to the receipt of TRU mixed waste at WIPP;

conducting waste characterization audits at generator storage sites to ensure their implementation of and compliance with applicable requirements; safely managing, storing, and disposing CH and RH TRU mixed waste upon receipt at WIPP; performing required environmental monitoring of air and groundwater at WIPP to ensure protection of human health and the environment; closing all permitted storage and disposal units following final receipt of waste; conducting required post-closure care activities after final closure of WIPP; and complying with corrective action requirements related to any release of hazardous waste or hazardous constituents from the Facility.

PUBLIC REVIEW OF THE DRAFT PERMIT

The Administrative Record for this proposed action consists of the Permit application, the draft Permit, this Public Notice, the Fact Sheet, and supporting documentation. The Administrative Record may be reviewed, with prior appointment, at the following location during the public comment period.

NMED - Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone: (505) 476-6000
Monday – Friday: 8:00 a.m. to 5:00 p.m.
Contact: *Steve Zappe*

A copy of the draft Permit, the Public Notice, and this Fact Sheet is available on the Department's website at: www.nmenv.state.nm.us/wipp/index.html. To obtain a copy of the Administrative Record or a portion thereof, please contact Mr. Zappe at (505) 476-6000, or at address given above. The Department will provide copies, or portions thereof, of the Administrative Record, including the draft Permit, at a cost to the requestor.

The Department issued a public notice on **April 27, 2010**, to announce the beginning of a 60-day comment period that will end at **5:00 p.m. MDT, June 28, 2010**. Any person who wishes to comment on the draft Permit or request a public hearing should submit written or electronic mail (e-mail) comment(s) with the commenter's name and mailing address to the address below. Only comments and/or requests received before **5:00 p.m. MDT on June 28, 2010** will be considered.

Steve Zappe, WIPP Project Manager
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2905 Rodeo Park Drive East, Building 1
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Ref: WIPP Draft Permit

Written comments must be based on reasonably available information and include, to the extent practicable, all referenced factual materials. Documents in the administrative record need not be re-submitted if expressly referenced by the commenter. Requests for a public hearing must provide: (1) a clear and concise factual statement of the nature and scope of the interest of the person requesting the hearing; (2) the name and address of all persons whom the requester represents; (3) a statement of any objections to the draft Permit, including specific references to any conditions being addressed; and (4) a statement of the issues which the commenter proposes to raise for consideration at the hearing. The Department will provide at least a 30 day notice of a public hearing, if one is scheduled.

The Department ensured that the draft Permit is consistent with the New Mexico Hazardous Waste Management Regulations. All written comments submitted will be considered in formulating a decision on issuance of a final Permit, or that may cause the draft Permit to be modified. The Department will respond in writing to all public comments. This response will specify which provisions, if any, of the draft Permit have been changed in the final permit and the reasons for the changes. All persons presenting written comments or who requested notification in writing will be notified of the decision by mail. These responses will also be posted on the Department's website.

After consideration of all the written public comments received, the Secretary of the Department or his designee will make the final decision on the draft Permit. The decision will be publicly available, and shall be included in a notification to the Permittees by certified mail. The Secretary's decision shall constitute a final agency decision and may be appealed as provided by the HWA.

ARRANGEMENTS FOR PERSONS WITH DISABILITIES

Persons having a disability and requiring assistance or auxiliary aid to participate in this process should contact Judy Bentley at the New Mexico Environment Department, Human Resources Bureau, P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone number: (505) 827-9872. TDY users please access her number via the New Mexico Relay Network at 1-800-659-8331.

REGULATORY BACKGROUND

In 1976, the U.S. Congress passed RCRA to regulate "cradle to grave" management of hazardous waste. RCRA was enacted as an amendment to the Solid Waste Disposal Act of 1965. On November 19, 1980, the RCRA regulations became effective, and it became unlawful to treat, store, or dispose of hazardous waste without having, or having applied for, a permit.

On January 25, 1985, the United States Environmental Protection Agency (EPA) authorized the State of New Mexico to implement a hazardous waste program in lieu of the Federal RCRA program. The State's authority for the program is the HWA, which: (1) authorizes the State's Environmental Improvement Board (EIB) to adopt hazardous waste management regulations;

and (2) authorizes the Department to implement and enforce regulations issued under the HWA. These regulations are known as the Hazardous Waste Management Regulations (**HWMR**). These regulations incorporate by reference pertinent sections of the Code of Federal Regulations (**CFR**) – 40 CFR Parts 260 through 270, 273, and 280 – and are codified in the HWMR, 20.4.1 NMAC. EPA has approved subsequent program revisions to the State's hazardous waste program, including the authority to regulate the hazardous component of mixed waste and to implement the corrective action program under the HWA.

The HWA and HWMR require each person owning or operating an existing facility or planning to construct a new facility for the treatment, storage, or disposal of hazardous waste to have a HWA permit. Owners or operators of hazardous waste treatment, storage, or disposal facilities (**TSDFs**) are required to submit a comprehensive permit application covering all aspects of design, operation, maintenance, and closure of their facilities. The Permit Application consists of Parts A and B; Part A is a standard form that requires the name of the owner/operator, a list of the types of wastes managed, a facility layout diagram, and the activities requiring a permit. Part B is an extensive document submitted in a narrative, tabular, and schematic format that includes general information requirements for all hazardous waste management facilities, as well as unit-specific information.

WIPP PERMIT HISTORY

NMED issued the current hazardous waste facility Permit to WIPP on October 27, 1999. It became effective 30 days later on November 26, 1999 for a fixed term of ten years. During the ten year term of the Permit, the Permittees submitted over 100 modifications to the Permit, either as notification of minor modifications that did not require NMED approval or public comment (i.e., Class 1 modifications that are generally editorial, administrative, or informational in nature), or as requests for major modifications that required NMED approval and public comment (i.e., Class 2 and Class 3 modifications that are more substantial changes). Several Class 3 modifications also included public hearings.

The Permit was due to expire on November 26, 2009. However, a permit is administratively extended pursuant to 20.4.1.900 NMAC (incorporating 40 CFR §270.51) if the Permittees submit a timely and complete application to renew the Permit at least 180 days prior to expiration. The Permittees submitted a renewal application dated May 27, 2009 following a public involvement process that included pre-submittal meetings with the public to obtain comment prior to submittal. The renewal application was based on the Permit current as of that date, with proposed changes indicated in redline strikeout format. On August 19, 2009, the Permittees requested an extension to submit an amended renewal application in response to extensive comments from the public and to address issues raised by NMED regarding the extensive changes proposed in the renewal application. NMED granted the request on August 31, 2009 with the conditions that the amended renewal application be based on the current Permit with changes limited to seeking authorization to dispose of waste in Panel 8 and adding the Mine Ventilation Rate Monitoring Plan; that certain proposed changes be incorporated into a permit modification request that would be processed separately from the renewal application;

and that the amended renewal application be submitted to NMED no later than September 25, 2009

The Permittees submitted the amended renewal application on September 25, 2009. On November 25, 2009, NMED determined the renewal application to be administratively complete and that it constituted a timely and complete application under the regulations. With this determination, the current Permit will remain in effect until the effective date of the new Permit.

TYPES OF HAZARDOUS WASTES MANAGED AT THE FACILITY

The criteria for establishing a waste as a hazardous waste are provided in 20.4.1.200 NMAC (incorporating 40 CFR Part 261). A waste is considered hazardous if it meets the definition of a solid waste described in 40 CFR §261.2; is not exempted by 40 CFR §261.4; and exhibits any of the characteristics of hazardous waste identified in 40 CFR Part 261, Subpart C; or is listed in 40 CFR Part 261, Subpart D.

Hazardous waste types, or “waste streams,” may be of uniform physical composition (*i.e.*, homogeneous) or of dissimilar or diverse composition (*i.e.*, heterogeneous). Homogeneous waste contains only one material, substance, or waste, and when a sample of the waste is collected, it is representative of the entire waste stream. Heterogeneous waste contains multiple components that differ in density, specific gravity, or other physical properties, are located in different places within the waste, or are discrete and different articles. Heterogeneous wastes (*e.g.*, debris) do not lend themselves to representative sampling and analysis.

EPA hazardous waste numbers with the prefixes, "U", "F", P, and "D", identified at 20.4.1.200 NMAC (incorporating 40 CFR Part 261, Subparts C and D), apply to TRU mixed waste streams managed at WIPP. Specifically: (1) D codes denote the characteristics of ignitability (D001), corrosivity (D002), reactivity (D003), and toxicity (D004- D043); (2) F codes signify wastes from non-specific sources; and (3) P and U codes denote discarded commercial chemical products, off-specification species, container residues, and spill residues thereof, with the P codes signifying acutely hazardous wastes and the U codes signifying toxic wastes. Wastes with the characteristics of ignitability, corrosivity or reactivity (D001, D002, and D003) are explicitly prohibited from management, storage, or disposal at WIPP. The draft Permit identifies the EPA hazardous waste numbers that are acceptable at WIPP.

UNITS TO BE PERMITTED

The draft Permit would authorize the following waste management by the Permittees:

- To safely manage and store TRU mixed waste in containers not to exceed the listed maximum capacities in the following units:

Waste Handling Building Unit Total – 6,854 ft³ (194.1 m³)
CH Bay Storage Area – 4,800 ft³ (135.9 m³)

CH Bay Surge Storage Area – 1,600 ft³ (45.3 m³)
Derived Waste Storage Area – 66.3 ft³ (1.88 m³)
Total CH TRU Waste – 6,466.3 ft³ (183.1 m³)
RH Bay – 156 ft³ (4.4 m³)
Cask Unloading Room – 74 ft³ (2.1 m³)
Hot Cell – 94.9 ft³ (2.7 m³)
Transfer Cell – 31.4 ft³ (0.89 m³)
Facility Cask Loading Room – 31.4 ft³ (0.89 m³)
Total RH TRU Waste – 387.7 ft³ (11.0 m³)

Parking Area Unit – 8,863 ft³ (251 m³)
Parking Area – 6,734 ft³ (191 m³)
Parking Area Surge Storage – 2,129 ft³ (60 m³)

- To safely manage and dispose TRU mixed waste in containers not to exceed the listed maximum capacities in the following underground units:

Panel 1 (filled)
CH – 370,800 ft³ (10,500 m³)
Panel 2 (filled)
CH – 635,600 ft³ (17,998 m³)
Panel 3 (filled)
CH – 603,600 ft³ (17,092 m³)
Panel 4 (filled)
CH – 503,500 ft³ (14,258 m³)
RH – 6,200 ft³ (176 m³)
Panel 5
CH – 662,150 ft³ (18,750 m³)
RH – 15,720 ft³ (445 m³)
Panel 6
CH – 662,150 ft³ (18,750 m³)
RH – 18,860 ft³ (534 m³)
Panel 7
CH – 662,150 ft³ (18,750 m³)
RH – 22,950 ft³ (650 m³)
Panel 8
CH – 662,150 ft³ (18,750 m³)
RH – 22,950 ft³ (650 m³)

PERMIT ORGANIZATION

The draft Permit is comprised of Parts (1-8) and Attachments (A-O). The Parts contain terms that the NMED requires the Permittees to comply with while storing and disposing TRU mixed waste, conducting ground-water monitoring, closing units, conducting post-closure care

activities after closure of the facility, and conducting certain corrective actions, if necessary. In the current Permit, these requirements have been contained in Modules I through VII.

Permit terms are established to ensure compliance with the HWA and HWMR, and are derived from applicable regulatory requirements, the Permittees' commitments, or requirements established by NMED to ensure adherence with the regulations or to protect human health or the environment as provided at 20.4.1.900 NMAC (incorporating 40 CFR §270.32(b)(2)).

Parts: Each draft Permit Part is briefly described below.

Part 1: *General Permit Conditions* contains permit conditions that apply to all hazardous waste management units, most of which are based on mandatory permit conditions set forth in 40 CFR Part 270. This Part is based on Module I of the current WIPP Permit.

Part 2: *General Facility Conditions* contains conditions the Permittees must follow for the operation of hazardous waste management units at WIPP, based largely on requirements set forth in 40 CFR Part 264, Subparts B through E. This Part is based on Module II of the current WIPP Permit.

Part 3: *Container Storage* contains permit conditions the Permittees must follow when storing TRU mixed waste in container storage areas at WIPP. It addresses the requirements for managing hazardous waste in containers in accordance with 40 CFR Part 264, Subpart I. This Part is based on Module III of the current WIPP Permit.

Part 4: *Geologic Repository Disposal* contains permit conditions the Permittees must follow when disposing TRU mixed waste in underground hazardous waste disposal units (**HWUDs**) at WIPP. It addresses the requirements for managing these units in accordance with 40 CFR Part 264, Subpart X. This Part is based on Module IV of the current WIPP Permit.

Part 5: *Ground-water Detection Monitoring* contains permit conditions the Permittees must follow to satisfy the requirements of the Detection Monitoring Program at WIPP in accordance with 40 CFR Part 264, Subpart F. This Part is based on Module V of the current WIPP Permit.

Part 6: *Closure* contains permit conditions the Permittees must follow for closure of hazardous waste management units. All permitted units are required to have and comply with an approved closure plan, in accordance with 40 CFR Part 264, Subpart G. This is a new Part that combines previous closure requirements that were contained in Modules II, III, and IV of the current WIPP Permit.

Part 7: *Post-Closure Care* contains permit conditions the Permittees must follow for post-closure care of the underground hazardous waste disposal units where it is not possible to accomplish "clean closure" by removal of all waste, hazardous constituents, and waste residues. This Part is based on Module VI of the current WIPP Permit.

Part 8: *Corrective Action* contains corrective action requirements to ensure that the Permittees appropriately address releases of hazardous waste and hazardous constituents to the environment. These requirements include the processes for implementing corrective action, cleanup levels, general methods and procedures for conducting field activities, laboratory procedures, general procedures for conducting risk assessments and determining background levels, general requirements for drilling and well installation, and requirements for reporting on corrective action activities conducted under this Permit. Part 8 is a complete replacement of Module VII of the current WIPP Permit.

Attachments:

Attachment A: *General Facility Description and Process Information* contains an overall facility description, a general statement of the waste management activities, description of the functional divisions of the property, a brief description of the surface structures, shafts, and underground structures, a summary of the types of waste managed at WIPP, and a chronology of events relevant to changes in ownership or operational control of the facility. This Attachment is based on Attachments A and M of the current WIPP Permit.

Attachment A1: *Container Storage* contains a description of the container storage units, the TRU mixed waste management facilities and operations, and compliance with the technical requirements of 20.4.1 NMAC. This Attachment is based on Attachment M1 of the current WIPP Permit.

Attachment A2: *Geologic Repository* contains a description of the underground HWDUs, of the geologic repository design, construction, and processes such as maintenance, monitoring, and inspection requirements. This Attachment is based on Attachment M2 of the current WIPP Permit.

Attachment A3 contains a drawing of a typical disposal panel in the underground. This Attachment is based on Attachment M3 of the current WIPP Permit.

Attachment A4: *Traffic Patterns* contains a description of access to the facility, traffic patterns in and around the Waste Handling Building, and underground traffic flow. This Attachment is based on Attachment G of the current WIPP Permit.

Attachment B: *Hazardous Waste Permit Application Part A* contains the current Part A application, identifying the U.S. EPA Hazardous Waste Numbers (waste codes) authorized to be managed at each permitted hazardous waste management unit. It also maps, figures, and photographs of the facility. This Attachment is based on Attachment O of the current WIPP Permit.

Attachment C: *Waste Analysis Plan (WAP)* satisfies the requirements in 40 CFR §264.13(c) for a “written waste analysis plan which describes the procedures which [the Permittees] will carry out to comply with paragraph (a) of this section.” Paragraph (a) states that “[b]efore an

owner or operator treats, stores, or disposes of any hazardous wastes ... he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part and part 268 of this chapter.”

This Attachment describes the overall approach to waste characterization, the process whereby acceptable knowledge (**AK**) may be used to satisfy all or part of the waste characterization requirements, completion of waste stream profile forms (**WSPFs**), and the waste confirmation process. The WAP specifies how waste streams are identified, acceptable and prohibited wastes at WIPP, required generator/storage site waste characterization methods, data verification and quality assurance requirements, screening of waste prior to and upon receipt at WIPP, records management, and reporting requirements. This Attachment is based on Attachment B of the current WIPP Permit.

Attachment C1: *Waste Characterization Sampling Methods* contains requirements for performing headspace gas sampling of debris wastes, requirements for performing solids sampling of homogeneous solids and soils/gravels waste, requirements for radiography, visual examination of waste containers, and requirements for proper sample chain of custody, packaging, and shipping. This Attachment is based on Attachment B1 of the current WIPP Permit.

Attachment C2: *Statistical Methods Used in Sampling and Analysis* describes the approach for selecting waste containers for statistical sampling, and provides the calculations for determining the upper confidence limits for statistical sampling. This Attachment is based on Attachment B2 of the current WIPP Permit.

Attachment C3: *Quality Assurance Objectives and Data Validation Techniques for Waste Characterization Sampling and Analytical Methods* identifies the quality assurance objectives (**QAOs**) for each waste characterization method used by generator/storage sites, describes the data review, validation, and verification requirements, the methods for reconciliation with data quality objectives (**DQOs**), data reporting requirements, the process for managing nonconformances identified during characterization, and special training requirements and certifications for waste characterization personnel. This Attachment is based on Attachment B3 of the current WIPP Permit.

Attachment C4: *TRU Mixed Waste Characterization Using Acceptable Knowledge* describes the overall requirements for using AK in the TRU waste characterization program, including AK documentation requirements, AK training and procedural requirements, criteria for assembling an AK record and delineating waste streams, contents for an AK Sufficiency Determination Request, requirements for re-evaluating AK information, and audits of AK. This Attachment is based on Attachment B4 of the current WIPP Permit.

Attachment C5: *Quality Assurance Project Plan (QAPjP) Requirements* requires generator/storage sites to implement applicable requirements of the WAP into an approved

QAPjP that is subsequently provided to NMED. This Attachment is based on Attachment B5 of the current WIPP Permit.

Attachment C6: *Waste Isolation Pilot Plant DOE Audit and Surveillance Program* contains requirements for DOE’s audit program to ensure generator/storage sites comply with applicable requirements of the WAP. It describes required audit procedures, audit position functions, and audit conduct, and it contains detailed checklists used by DOE during audits to ensure site compliance with the WAP. This Attachment is based on Attachment B6 of the current WIPP Permit.

Attachment C7: *DOE Level TRU Waste Confirmation Process* describes actions taken by DOE to approve and accept waste for storage and disposal at WIPP, including waste confirmation activities performed to satisfy the requirements in Section 310 of Public Law 108-447. This Attachment is based on Attachment B7 of the current WIPP Permit.

Attachment D: *RCRA Contingency Plan* satisfies the requirements in 40 CFR §§264.51 and 264.52. The contingency plan describes the actions facility personnel will take in response to fires, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous constituents to air, soil, or surface water at the facility. The plan describes arrangements with local first responders, lists all qualified emergency coordinators, lists all emergency equipment, and includes an evacuation plan. This Attachment is based on Attachment F of the current WIPP Permit.

Attachment E: *Inspection Schedules/Procedures* satisfies the requirements in 40 CFR §264.15(b)(1) that the “owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.” This Attachment is based on Attachment D of the current WIPP Permit.

Attachment F: *Personnel Training* satisfies the requirements in 40 CFR §264.16, which calls for a “written description of the type and amount of both introductory and continuing training that will be given to each person filling a position” related to hazardous waste management. This Attachment is based on Attachment H of the current WIPP Permit.

Attachment F1: *RCRA Hazardous Waste Management Job Titles and Descriptions* lists each hazardous waste management position title, describes the duties, requisite skills, experience and education, and specifies the relevant training requirements for each position. This Attachment is based on Attachment H1 of the current WIPP Permit.

Attachment F2: *Training Course and Qualification/Certification Card Outlines* contains objectives and a course description for each required course in the RCRA Personnel Training program. It also contains qualification card descriptions for those positions requiring formal qualifications. This Attachment is based on Attachment H2 of the current WIPP Permit.

Attachment G: Closure Plan satisfies the requirements in 40 CFR §264.110 through §264.116. The closure plan describes the closure performance standard for both the container storage units and the underground HWDUs, the anticipated maximum waste inventory, the schedule for closure, closure activities, and describes the notices required for disposal facilities. This Attachment is based on Attachment I of the current WIPP Permit.

Attachment G1: Technical Specifications, Panel Closure System, Waste Isolation Pilot Plant provides the detailed closure plans for the underground HWDUs. **Attachment G1-G** provides the technical specifications, and **Attachment G1-H** provides the detailed design drawings. This Attachment is based on Attachment I1 of the current WIPP Permit.

Attachment G2: Shaft Sealing System Compliance Submittal Design Report provides the detailed closure plans for the entire underground repository. **Attachment G2-A** provides the material specifications, **Attachment G2-B** describes the shaft sealing construction procedures, and **Attachment G2-E** provides the detailed design drawings. This Attachment is based on Attachment I2 of the current WIPP Permit.

Attachment H: Post-Closure Plan satisfies the requirements in 40 CFR §264.117 through §264.120. The post-closure plan describes the activities required to maintain WIPP after completion of facility closure and the post-closure notices required for disposal facilities. This Attachment is based on Attachment J of the current WIPP Permit.

Attachment H1: Active Institutional Controls describes the design of a system to control access to the disposal site and implement maintenance and remedial actions pertaining to the site access controls. It also addresses the scheduling process for control of inspection, maintenance, and periodic reporting related to long-term monitoring. This Attachment is based on Attachment J1 of the current WIPP Permit.

Attachment I: Compliance Schedule would be a compilation of all Permit- required submittals, including those required once and those required on a periodic basis. There are no required one time submittals at this time. This new Attachment is reserved for potential development in the future.

Attachment J: Hazardous Waste Management Unit Tables lists the hazardous waste management units at the Facility and their associated capacities. The Attachment includes three tables: 1) Table J-1 shows the Waste Handling Building (WHB) Container Storage Unit; 2) Table J-2 shows the Parking Area Container Storage Unit and; 3) Table J-3 shows the Underground Hazardous Waste Disposal Units. This is a new Attachment using information from Modules III and IV of the current WIPP Permit

Attachment K: Solid Waste Management Unit (SWMU) and Area of Concern (AOC) Tables comprises four lists of SWMUs and AOCs: (a) those requiring corrective action (currently none), (b) those where corrective action is complete with controls (currently none); (c) those where

corrective action is complete without controls, or requiring no further action; and (d) current hazardous waste management units. This is a new Attachment using information from Module VII of the current WIPP Permit

Attachment L: *WIPP Groundwater Detection Monitoring Program Plan* satisfies the standards of 40 CFR Part 264, Subpart F. The plan governs all ground-water sampling events conducted to meet regulatory requirements and ensures that all such data are gathered in accordance with applicable requirements. This Attachment is based on Attachment L of the current WIPP Permit.

Attachment M: *Figures* would be a compilation of figures referenced elsewhere in the Permit. This new Attachment is reserved for potential development in the future.

Attachment N: *Volatile Organic Compound Monitoring Plan* describes the monitoring plan for volatile organic compound (VOC) emissions from mixed waste that may be entrained in the exhaust air from underground HWDUs during or after disposal. The purpose of VOC monitoring is to ensure compliance with the geologic repository performance standards and VOC limits specified in Permit Part 4. This Attachment is based on Attachment N of the current WIPP Permit.

Attachment N1: *Hydrogen and Methane Monitoring Plan* describes the monitoring plan for hydrogen and methane generated in underground HWDUs, or Panels, 3 through 8. The plan includes the monitoring design, a description of sampling and analysis procedures, QAOs, and reporting activities. This Attachment is based on Attachment N1 of the current WIPP Permit.

Attachment O: *Mine Ventilation Rate Monitoring Plan* describes how the ventilation requirements in the Permit will be met. The plan includes the design and procedure of the plan, equipment calibration and maintenance, reporting and record keeping activities, and quality assurance requirements. This is a new Attachment taking the place of what would have been Attachment Q of the WIPP Permit.

BASIS FOR DRAFT PERMIT CONDITIONS

The Permittees are required to apply for and obtain a permit from the Department to manage TRU mixed waste at WIPP pursuant to the HWA, RCRA, and their implementing regulations. The Department's issuance of the draft Permit is in response to the Permittees' amended renewal application. The foundation for the draft Permit is the current Permit as of April 1, 2010. The Permittees proposed the following changes to the Permit in its September 25, 2009 amended renewal application:

- Authorization for disposal of TRU mixed waste in Panel 8
- Inclusion of the Mine Ventilation Rate Monitoring Plan in the Permit as Attachment O

In addition to the Permittees' proposed changes, the Department is proposing a number of changes in the draft Permit:

- Restructuring the Permit into Parts (currently known as “Modules”); re-sequencing the Attachments; moving some information from Attachments to Parts; and moving some information from one Attachment to another Attachment
- Clarifying and differentiating between the roles of DOE and WTS as they relate to waste characterization and confirmation
- Clarifications to the requirements for AK, including assignment of EPA Hazardous Waste Numbers (**HWNs**) and the definition of waste stream
- Clarifications to the definition of “independence” as it relates to technical reviews of characterization data at the generator/storage sites
- Clarification to VE requirements as they relate to confirmation
- Changes to training requirements for generator/storage site real-time radiography (**RTR**) operators
- Inclusion of background groundwater quality standards and other changes to the groundwater detection monitoring program
- Addition of new requirements consistent with other recent NMED hazardous waste facility permits
- Editorial changes to clarify requirements

Each of these proposed changes is described below.

Changes proposed by the Permittees in their renewal application are indicated in the draft Permit as redline/strikeout with a gray background. Changes proposed by NMED are indicated in the draft Permit as redline/strikeout with white background.

Authorization for disposal of TRU mixed waste in Panel 8

The current Permit authorizes construction of and disposal of TRU waste in Panels 1 through 7, because that was the extent of construction and disposal expected during the initial ten-year term of the Permit. The Permittees are currently emplacing waste in Panel 5 and constructing Panel 6. The changes proposed by the Permittees in their application to authorize the construction and use of Panel 8 for disposal have been incorporated into Part 4 and relevant Attachments.

Addition of Attachment Q, WIPP Mine Ventilation Rate Monitoring Plan

One component of Permit Attachment N, VOC Monitoring Program, requires the Permittees to measure and/or record the overall mine ventilation rate. Part 4 includes other requirements, such as to maintain a minimum running annual average mine ventilation exhaust rate and a minimum active room ventilation rate, and to implement a mine ventilation rate monitoring plan. A draft Mine Ventilation Rate Monitoring Plan (**Plan**) has been implemented by the Permittees since October 25, 2000. The Permittees proposed to incorporate the Plan into the Permit in their

renewal application. The draft Permit incorporates the Permittees' Plan as Attachment O in black text, with NMED changes indicated as redline/strikeout with white background.

Restructuring the Permit

In order to conform to the current standard within NMED for hazardous waste facility permits, the WIPP draft Permit is being restructured from the current Modules into Parts. Many of the current Attachments have been rearranged into a standard sequence, and some information in Attachments is being moved into the Parts or other Attachments. The contents of each Part and Attachment is described above under "Permit Organization."

Clarification of the Roles of DOE and WTS

The current Permit states that the Permittees "shall require that generator/storage sites implement applicable waste characterization requirements of the WAP... prior to the Permittees' receipt of TRU mixed waste at WIPP." When the original WIPP Permit was issued in 1999, the relationship between the generator/storage sites and the WIPP facility and Permittees was clear and well established. Each site had its own management and operating contractor generally responsible for performing waste characterization on TRU waste destined for disposal at WIPP. The WIPP owner, DOE Carlsbad Field Office, assisted sites with developing WAP-compliant waste characterization programs, audited waste characterization activities at sites, approved waste stream profile forms as eligible for disposal prior to shipment, and certified sites for shipment of their waste to WIPP. The WIPP co-operator, WTS, assisted DOE with interpreting WAP requirements and ensured the safe receipt, storage, and disposal of waste from sites.

In mid 2001, DOE began implementing a new program called the Central Characterization Project (CCP), which is an organizational division within WTS. The General Manager of WTS has direct organizational and management authority for CCP waste characterization activities as well as for waste management activities at WIPP. CCP conducts waste characterization and certification at sites under a contractual agreement with the generator site. Since that time, CCP has been deployed to every generator/storage site in the DOE complex, and operates the approved waste characterization program for nearly every site. Thus, the co-operator of WIPP is actively engaged in characterizing waste at sites, as well as fulfilling the responsibilities as a co-Permittee to require that sites implement applicable requirements of the WAP. Similarly, with the modification of the Permit in 2006 to include AK Sufficiency Determination (AKSD) requests that sites submit to the Permittees for provisional approval, NMED did not anticipate a situation where CCP (on behalf of the site) would submit AKSD requests to itself as the co-Permittee, where, based on language in the current Permit, it could be viewed as being in the position to approve its own request.

NMED believes this dual-role arrangement for WTS, as it has evolved over the course of the past nine years, presents a potential conflict of interest. At the very least it presents the appearance of conflict. There must be a clear separation between the entities conducting waste characterization and those responsible for approving acceptance of waste. NMED does not consider DOE to be

similarly conflicted, because the DOE Carlsbad Field Office is organizationally distinct from other DOE area offices responsible for oversight at generator/storage sites. Therefore, NMED is proposing to revise the current Permit language to give DOE sole responsibility for nearly all WAP-related requirements in the Permit. The draft Permit makes it clear that DOE is the entity that requires sites to implement all applicable requirements of the WAP, and that DOE will be responsible for conducting waste characterization audits, approving waste stream profile forms, granting provisional approval to AKSD requests, and performing waste confirmation activities prior to shipment of waste to WIPP. Removing WTS from any position of responsibility for reviewing or approving its own activities related to waste characterization and confirmation will clarify its role with respect to these activities under the Permit. All other language in the Permit regarding waste management activities at WIPP will remain unchanged to ensure these are the joint responsibility of both Permittees.

Clarifications to AK Requirements

Acceptable knowledge, or AK, is a foundational component of waste characterization. Sites use AK to delineate TRU mixed waste streams, assess whether wastes comply with the facility waste acceptance criteria, assess whether wastes exhibit a hazardous characteristic or are listed as hazardous, and estimate waste material parameter weights. Over the course of the first ten year implementation of the Permit, NMED identified several recurring concerns with respect to AK that should be revised to clarify intent and improve implementation.

NMED proposes to revise the definition of waste stream in the Permit. Currently, a waste stream is defined as “waste material generated from a single process or from an activity that is similar in material, physical form, and hazardous constituents.” NMED found that sites tended to focus on the process or activity (such as decontamination and decommissioning of a building) to combine waste materials that were not necessarily similar in material, physical form, or hazardous constituents, resulting in “lumping” of numerous distinct waste streams into one large waste stream. NMED is revising the definition of waste stream to be “waste material that: 1) is similar in material, physical form, and hazardous constituents; and 2) is or was generated from a single process or activity” in order to ensure both elements are considered in waste stream determination.

Another proposed revision addresses the manner by which HWNs are assigned to waste streams. As implemented over the past ten years, sites are required to “...include all sources of information in its records and conservatively assign all potential hazardous waste numbers unless the sites choose to justify an alternative assignment and document the justification in the auditable record.” One unintended consequence of this requirement was a disparity between how the site assigned HWNs as a generator to satisfy its state regulatory requirements and how it assigned HWNs to satisfy the WIPP WAP requirements, sometimes leading to wastes considered nonhazardous under state regulation to become hazardous after WIPP waste characterization. Rather than requiring conservative assignment of HWNs, the draft Permit proposes instead that sites “...include all sources of information in its records and may choose to either conservatively assign hazardous waste numbers or assign only those numbers deemed appropriate and

consistent with RCRA requirements.” Related to this change, the draft Permit also requires sites to document how the waste was historically managed – mixed (regulated) versus non-mixed (not regulated under RCRA) – and develop procedures that ensure assignment of HWNs “is appropriate, consistent with RCRA requirements, and adequately considers site historical waste management.”

Clarification to the Definition of “Independence”

The current Permit does not provide an adequate definition of independence with regard to replicate scans and independent observations (**IO**) for RTR data, and independent technical reviews (**ITR**) of all characterization data at the sites. NMED observed practices during site audits and review of data forms that appeared questionable, and NMED notified the Permittees of these concerns on an Observer Inquiry form following an audit in 2009. The proposed changes in the draft Permit explicitly state the standard for “independence” and require that RTR operators who perform replicate scans and IOs cannot be involved in the original scan of the container. The proposed changes also require that the operators who perform ITR of any characterization data were not be involved in the characterization of the container or the generation of the data.

Clarification of Confirmation VE Requirements

Currently, the Permit does not require the Permittees to review VE video/audio media during confirmation, if it is available. The draft Permit clarifies that when the Permittees use VE to perform confirmation, they must use the video/audio media if the generator/storage site recorded the VE activities. This will ensure that the best available characterization data is used during confirmation.

Clarification of Generator/Storage Site RTR Training Requirements

The draft Permit clarifies that RTR operators must identify 100 percent of all items in training containers instead of 100 percent of *required* items. It also clarifies that training containers do not have to be drums. Prior to NMED approval of a Class 3 Permit Modification Request in October 2006, the Permit listed items that RTR operators were required to identify in training containers. Because this list was removed from the Permit in October 2006, the term *required* is no longer relevant, and RTR operators should be required to identify *all* items in training containers in order to maintain qualifications.

Inclusion of Background Groundwater Quality Standards

The draft Permit eliminates the language in Part 5, Section 5.6 regarding how background groundwater quality values are to be established. The Permittees have been collecting groundwater quality data since 1995 in the Culebra wells specified in the Detection Monitoring Program. NMED established the background groundwater quality value for each metal as the 95th Upper Tolerance Limit Value (**UTLV**) in each Detection Monitoring Well (**DMW**)

completed in the Culebra Member of the Rustler Formation reported in the first ten sampling rounds. Because VOCs and semi-VOCs (**SVOCs**) have never been detected in the DMWs, NMED established the background groundwater quality value for each VOC and SVOC as the Practical Quantitation Limit (**PQL**) for each compound.

NMED also clarified the distinction between “indicator parameters” and “hazardous constituents” in Part 5, with the intent to ensure that variations in indicator parameters would never be considered an indication of contamination that could lead to compliance monitoring. Detection of hazardous constituents above their background groundwater quality values would require an evaluation by the Permittees of whether or not there is statistically significant evidence of contamination.

Finally, NMED eliminated WQSP-6a, a well completed in the Dewey Lake Formation, from the Detection Monitoring Program because it does not extend to the point of compliance identified in Part 5 and thus served no purpose in determining compliance with the environmental performance standards of the underground HWDUs.

Addition of New Requirements Consistent with Recent NMED Hazardous Waste Permits

The draft Permit includes several conditions that are newly imposed on WIPP, but have been included in other hazardous waste facility Permits issued by NMED. These include the following:

Community Relations Plan: The draft Permit directs the Permittees to establish and carry out a community relations plan to inform the nearby communities and members of the public of permit-related activities. In addition, the plan will give these entities a means to give feedback and input to the Permittees and will seek to minimize disputes and resolve differences between the Permittees and interested parties.

Information Repository: The draft Permit requires the Permittees to establish an information repository (**IR**) containing specific documents concerning the issuance and operation of the Permit. The Department requires that the IR be located either as a virtual or electronic repository, at a physical location, or both. The Department considers an electronic IR available through the internet to be more readily accessible and therefore more utilized. The Department considers the requirement to include particular documents in an electronic IR to be easier to enforce because the Department can access an internet-based repository at any time. The Department’s experience with physical IRs is that they are often incomplete and that they create a burden on third parties to ensure that documents are not removed or altered. The Department encourages the Permittees to collaborate with interested parties to determine an effective and reasonable IR. In any event, the Department maintains a physical copy of information in the IR in its Administrative Record.

Waste minimization: The draft Permit requires a waste minimization program to reduce the volume and toxicity of hazardous wastes generated at WIPP. The regulations at 40 CFR §264.73(b)(9) require an annual certification by the Permittees that they have in place a program to reduce the volume and toxicity of hazardous waste generated. In this section the Department has included specific program requirements to make the condition enforceable and protective. EPA is encouraging states to enforce the waste minimization requirements at 40 CFR §264.73(b)(9). These requirements were previously contained in Module VII. The Department requires that the waste minimization program be a forward-looking document for planning purposes to integrate the waste minimization program into WIPP's operating principles.

Under Construction