



**NEW MEXICO
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau**
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030



www.env.nm.gov

INSPECTION TYPE: Routine Complaint Follow-Up Compliance Assistance Pre-Arranged

DATE: 12/7/2016 TIME: 0900

FACILITY NAME DOE Waste Isolation Pilot Plant EPA ID # NM4890139088

BUSINESS OWNER & ADDRESS U.S. Department of Energy. 34 Louis Whitlock Drive, Carlsbad, NM 88220

MAILING ADDRESS 34 P.O. Box 3090, Carlsbad, NM 88221-3090

PROPERTY OWNER & ADDRESS U.S. Department of Energy. P.O. Box 3090, Carlsbad, NM 88221-3090

NOTIFIED AS: N/A

CURRENT STATUS:

- CESQG (<100 kg/mo.)
- SQG (100-1000 kg/mo.)
- LQG (>1000 kg/mo.)
- Transporter
- Transfer Facility
- TSD Facility - Unit Type(s): Storage/Disposal
- Used Oil:

- CESQG (<100 kg/mo.)
- SQG (100-1000 kg/mo.)
- LQG (>1000 kg/mo.)
- Transporter
- Transfer Facility
- TSD Facility - Unit Type(s): Storage/Disposal
- Used Oil:

ENTRY CONFERENCE:

Present credentials to facility representative
Cite authority to enter site, conduct inspection, obtain samples, take photos (NMSA § 74-4-4.3)
State reasons(s) for and nature of inspection
State objectives and procedures for inspection



RESPONSIBLE OFFICIAL(s):

Name	Title
<i>Rick Chavez</i>	Manager RE>

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DATE OF LAST INSPECTION: 11/18/2015

CHECKLISTS COMPLETED: CESQG SQG <90 Day Used Oil Other: WIPP-specific Checklist

History, Size and Nature of Business:

The Waste Isolation Pilot Plant (WIPP) is a U.S. Department of Energy (DOE) facility for the acceptance and disposal of Transuranic (TRU) mixed waste from various DOE research laboratories around the United States. Much of the TRU mixed waste was originally generated from the continuing research, production, and maintenance of the U.S. nuclear weapons arsenal, as well as more benign research of radioactive materials. The facility is located approximately 26 miles east of the city of Carlsbad, New Mexico. The facility has a 16 square mile exclusion zone incorporating about 35 acres of fenced property. See the facility maps provided in the inspection folder for a layout of the facility's surface and underground structures. There are currently approximately 800 employees. WIPP began accepting waste in 1999. Due to 2 incidents in the underground repository in February 2014, WIPP has been in a state of reduced operational capacity since that time. No wastes are currently being allowed to be accepted from off-site facilities or to be emplaced in the underground repository, while WIPP works to recover operational capacity. Pending the results of this inspection and of other stakeholder authorizations to proceed, WIPP plans to resume waste emplacement by January 2017.

Process Description

During normal operations, WIPP accepts shipments of Transuranic (TRU) mixed waste at the Waste Handling Building (WHB), examines shipment paperwork, waste profiles, and the general condition of the shipping containers, scans the exterior of the waste packaging for evidence of radionuclide contamination, and brings them into the permitted area of the WHB for short-term storage and preparation for emplacement. TRU waste may also be stored temporarily in the permitted Parking Area Unit during normal operations. The TRU waste containers arrive in 55-gallon drums or other standard waste containers that are nested within larger shipping containers for safe transport. The TRU waste containers are removed from the outer packaging in the WHB, scanned again for exterior radionuclide contamination, may be transferred to facility overpack or 'cask' containers, and loaded onto equipment for transport to the underground repository. The underground repository contains Hazardous Waste Disposal Units (HWDUs), consisting of 10 "Panels", each containing 7 disposal rooms.

These activities may generate site-derived TRU waste such as used Personal Protective Equipment, absorbents, or other materials which may have been contaminated by the TRU mixed waste shipment. These wastes are accumulated and stored in a designated area of WHB, normally for later emplacement in the underground. Derived Low-Level Mixed Waste (LLMW) may be sent off-site for disposal.

There are two types of TRU mixed waste normally accepted at WIPP, Contact Handled (CH) waste and Remote Handled (RH) waste. The equipment and procedures used for emplacement are somewhat different for these two categories, and are described in detail in the facility's RCRA permit. For RH wastes, the waste is placed in a cask that is fitted into a borehole drilled into the rock at a disposal room, and sealed with a shielded plug. CH waste containers are stacked 3-high on the floor of the disposal rooms and backfilled with Magnesium Oxide absorbent.

As stated above, WIPP is currently not allowed to accept waste shipments or emplace waste in the HWDUs. As a result, waste shipments that were received but not yet emplaced prior to the 2014 incidents have been stored in the WHB since that time.

WIPP also generates sufficient quantities of non-mixed hazardous wastes and used oil from maintenance of facility structures and equipment, and from recovery operations, to qualify as a Large Quantity Generator of hazardous wastes.

These wastes are accumulated in one of two Satellite Accumulation Areas (one each surface and underground) or one of two Central Accumulation Areas (one each surface and underground), for off-site disposal.

Waste Streams

Waste stream	Waste code	Process, location, container size	Transporter & EPA id # and TSDf w/ EPA id	Monthly generation
Waste Aerosol cans	D001, D005, D035; managed as Universal waste under 20.4.1.1001D NMAC	Spent and partially spent aerosol cans. Accumulated in a 30-gallon drum at the surface or underground SAAs. Transferred to surface CAA for off-site disposal	Advanced Chemical Transport (CAR000070540) and Veolia ES Technical Solutions (NJD080631369/COD980591184)	148 lbs. in September 2016
Gas/diesel mixture	D001, D018	Drained from out of service vehicles/bad fuel. Stored in 55-gallon drums at the surface CAA.	Advanced Chemical Transport (CAR000070540) and Veolia ES Technical Solutions (NJD080631369/COD980591184)	145 lbs. in February 2016, 513 lbs. in September 2016
Waste diesel	D001	Drained from out of service vehicles/bad fuel. Stored in 55-gallon drums at the surface CAA.	Advanced Chemical Transport (CAR000070540) and Veolia ES Technical Solutions (NJD080631369/COD980591184)	775 lbs. in September 2016
Flammable Solids	D001	Absorbent contaminated by flammable liquids. Stored in containers at the surface CAA.	Advanced Chemical Transport (CAR000070540) and Veolia ES Technical Solutions (NJD080631369/COD980591184)	146 lbs. in September 2016
Broken Lead-Acid batteries	D002, D008	Broken vehicle, other lead acid batteries. Stored in containers at surface CAA.	Advanced Chemical Transport (CAR000070540) and Veolia ES Technical Solutions (NJD080631369/COD980591184)	59 lbs. in September 2016
Waste petroleum gases	D001	Waste gas. Stored in containers at surface CAA.	Advanced Chemical Transport (CAR000070540)/Veolia ES Technical Solutions (COD980591184)	24 lbs. in November 2016

Waste Streams (continued)

Radioactive HEPA filters and PPE (Low-Level Mixed Waste)	D004-D011, D018, D019, D021, D022, D026-D040, D043, F001-F007, F009, U133	Spent repository exhaust shaft HEPA filters and used PPE from recovery operations and hazardous waste constituent release prevention measures, stemming from the Feb. 2014 drum breach. Stored in Standard Waste Boxes at the WHB.	Hittman (TNR000034686)/Energy Solutions Clive Facility (UTD982598898)	1,062 lbs. in February 2016, 3141 lbs. in August 2016, 14,404 lbs. in 2015
Misfired Hilti Cartridges	D001, D003, D005, D008	Off-spec and defective bolting operations cartridges used for maintenance of underground passageways. Accumulated in a 55-gallon drum in the underground SAA, then transferred to aboveground CAA.	Veolia ES Technical Solutions (ILD098642424)	41 lbs. in 2015
Off-spec oxygen cylinders	D001	Unusable oxygen cylinders normally used to supply maintenance equipment. Stored in surface CAA.	Veolia ES Technical Solutions (ILD098642424)	67 lbs. in 2015
Gas spill cleanup material	D001, D018	Cleanup of gasoline spills. Stored in 55-gallon drums at the CAA.	Veolia ES Technical Solutions (TXD000838896)	600 lbs. in 2015
Leaded brine	D008 (potential). None was hazardous in 2015 or 2016.	Maintenance of the underground by removing accumulated groundwater that has seeped into the repositories' water collection sumps. Pumped into 500-gallon tote containers at the underground 90-day area, sampled, and transferred to the surface CAA for off-site disposal if sample is determined to be hazardous waste.	Energy Solutions Clive Facility (UTD982598898) if radiological contamination is present. Discharged to wastewater pond if not. Disposed as hazardous waste with a TSDF if appropriate.	
Used Oil		Vehicle and equipment maintenance. Accumulated in 55-gallon drums near the CAA.	Veolia ES Technical Solutions (TXD000838896)	40 gallons

Results of Inspection

NMED inspectors met with Environmental Compliance Manager Stewart Jones, RCRA Program Manager Anthony Stone, RES Manager Rick Chavez, and other WIPP staff, completed site-specific training requirements the first day, then reviewed hazardous waste manifests, performed an entry conference, inspected the Waste Handling Building permitted areas, inspected the surface SAA and CAA, toured the Interim Ventilation System Buildings, and received a briefing concerning the Department of Energy Operation Readiness Review findings on the second day of inspection. On the third day of inspection, NMED inspectors received an escorted tour of uncontaminated areas of the underground repository, including the CAA and SAA, fueling station, transition zone, waste handling and salt handling shafts, supplemental ventilation system, and maintenance shop; toured the central monitoring room and mine rescue rooms; and reviewed inspection, training, waste profile, and contingency plan-related documents. NMED inspectors returned for a fourth day to complete review of inspection records.

Potential violations are summarized below.

Summary of Potential Violations

Please be advised that this list may not be inclusive and additional violations may be added after reviewing notes, pictures and documents.

This list of potential violations has been divided between the requirements for Large Quantity Generators of hazardous waste in Chapter 40 of the Code of Federal Regulations, and violations of the facilities' hazardous waste storage and disposal permit (including any standing Administrative Orders (AOs) or Temporary Authorizations (TAs) implemented by NMED under this permit).

40 CFR violations are listed below first, and provide the citation of the regulation as well as a description of the details of the violation.

Permit conditions. Permit, AO, and TA conditions are cited as "PC" (Permit Condition, followed by the section number and/or paragraph number where the requirement resides within the document, the corresponding 40 CFR requirement the requirement references (if any), and a description of the details of the violation.

Violations of 40 CFR Large Quantity Generator Requirements

-None

Violations of Hazardous Waste Permit Conditions

1. **PC 2.10.1- Failure to station emergency response equipment as specified in Permit Attachment D, Table D-2**

During inspection of the Waste Handling Building Contact Handling Bay, NMED inspectors observed that there was no safety shower present as specified in Permit Attachment D, Table D-2. It was determined that this safety shower is stationed in another building and that an emergency response procedure is in place to safely transport an affected worker to this safety shower in the event of a spill.

2. **PC 2.8.4- Failure to ensure employees performing RCRA-relevant job duties complete pertinent refresher training annually, by the end of the calendar month wherein the refresher training has expired.**

During inspection of facility training records, NMED inspectors noted that an employee assigned to the position of TRU Waste Handler and active in his duties at the Waste Handling Building Contact Handling Bay, Mr. David Dossey, had not completed his annual refresher of the Hazardous Waste Responder training course. His training refresher was due in September of 2016. This employee should be trained as soon as possible and before performing any handling of waste or being responsible for waste release response in the Waste Handling Building.

3. **PC 3.7.2- Failure to maintain a clearly legible label or marking on all contact-handled mixed waste package indicating the package contains mixed waste.**

During inspection of the mixed waste containers stored in the Waste Handling Building Contact Handling Bay, NMED inspectors observed a TRUPACK container containing mixed waste with a hazardous waste label that was obstructed and not legible.

*This violation was corrected at the time of inspection.

Best Management Practices

The concerns, questions, comments, and suggestions provided below are not potential violations. NMED provides these items as a resource for the facility to encourage continual improvement in the areas of regulatory compliance, pollution prevention, and safe handling of hazardous waste. None of the suggestions provided below are required to be implemented or would be enforceable under NMED's *Hazardous Waste Act Enforcement Response Protocol*, but may be prudent to prevent future unintentional noncompliance or releases to the environment.

- a.) The fire sprinkler system at Building 474 is in need of repair/restoration. NMED recommends remedying this situation as soon as possible.
- b.) Although the permit only requires 1 fire cart equipped with 1 fire extinguisher in the underground repository, NMED recommends restoration of the other two inoperable fire carts and associated 33-gallon foam units to full operational capacity. The foam units for each cart were tagged out of service due to needing an annual inspection. NMED recommends remedying these deficiencies.
- c.) NMED strongly recommends that WIPP management ensure that inspection records include deficiencies that were identified in previous inspections, as well as noting the specific corrective actions that were used to remedy deficiencies.
- d.) Deficiencies observed during inspections should be remedied within a timely manner. Also, it was noted that the fire sprinkler system in the Building 411 (Waste Handling Building) was not completely inspected due to a malfunctioning door in Room 118.
- e.) NMED strongly recommends repair of observed deterioration of the flooring secondary containment protective coating in the Waste Handling Building. NMED expects that this repair will be performed in a timely manner, but understands that due to the need to store waste in this area long-term that there are barriers to performing that work at this time.
- f.) NMED recommends clarifying building designations in inspection logs to state what function those buildings/areas perform.
- g.) NMED recommends ensuring that inspection records are reviewed by management in a more timely fashion.
- h.) NMED recommends a future Permit Modification to reflect changes in and upgrades to fire suppression systems in the underground, and more specifically describing how fire control and suppression systems and alarms are activated and inspected.

Facility: DOE Waste Isolation Pilot Plant EPA ID#: NM4890139088 Inspection Date: 12/7/2016

Exit Conference:

Date of Exit Conference: 12/9/2016 Time of Exit: 1200
0800 A.C. 12/9/16

Discussion/Explanation of Potential Violation(s): N/A

Explain Review Process by NMED/HWB Management:

NMED Anticipated Timetable for Possible Enforcement Action(s): NA:

Explain Availability of On Site Technical Assistance: N/A

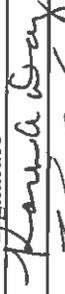
✓ Advised Facility Representative, no potential violation(s) of 20 NMAC 4.1 were identified. Also, explained that Facility remains obligated to comply with all applicable laws and regulations.

✓ Advised Facility Representative of the potential violation(s) identified during the inspection. Explained that in accordance with § 74-1-10 NMSA 1978 (Repl. Pamp. 2000), NMED may: (1) issue a Notice of Violation requesting voluntary compliance within a specified time period; (2) issue a Compliance Order requiring compliance immediately or within a specified time assessing a civil penalty for any past or current violations of up to \$10,000 per day of noncompliance with each violation or both; or (3) commence a civil action in district court for appropriate relief, including a temporary or permanent injunction. Any such order issued may include a suspension or revocation of any permit issued by NMED.

Participants:

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Facility: DOE Waste Isolation Pilot Plant EPA ID#: NM4890139088 Inspection Date: 12/7/2016

Exit Conference:

Date of Exit Conference: 12/9/2016 Time of Exit: 0800 1200 A.C.
12/14/16

Discussion/Explanation of Potential Violation(s):

Explain Review Process by NMED/HWB Management:

NMED Anticipated Timetable for Possible Enforcement Action(s): NA:

Explain Availability of On Site Technical Assistance:

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Facility: DOE Waste Isolation Pilot Plant EPA ID#: NM4890139088 Inspection Date: 12/7/2016

Exit Conference:

Date of Exit Conference: 12/9/2016 Time of Exit: 0800 ^{12:00 A.C.} 12/14/16

Discussion/Explanation of Potential Violation(s):

Explain Review Process by NMED/HWB Management:

NMED Anticipated Timetable for Possible Enforcement Action(s): NA:

Explain Availability of On Site Technical Assistance:

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