



AA:25:01084

November 25, 2025

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

Subject: Transmittal of the Waste Isolation Pilot Plant Fiscal Year 2025 Waste Minimization Report,  
Hazardous Waste Facility Permit Number: NM4890139088-TSDF

Dear Mr. Nance:

The purpose of this letter is to provide you with the WIPP Fiscal Year 2025 Waste Minimization Report.

I certify under penalty of law that this document and enclosure were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

If you have any questions, please contact Mr. Rick Chavez at (575) 234-3225.

Sincerely,

*//Signature on File//*

Ken Harrawood  
Program Manager  
Salado Isolation Mining Contractors

Enclosure

cc: with enclosure

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**United States Department of Energy**

**Carlsbad Field Office**

**Waste Isolation Pilot Plant  
Waste Minimization Report**



**Fiscal Year 2025**

**Waste Isolation Pilot Plant Fiscal Year 2025 Waste Minimization Report**  
**Hazardous Waste Facility Permit, Number: NM4890139088-TSDF**

The Waste Minimization Program in place at the Waste Isolation Pilot Plant (WIPP) facility reduces the volume and toxicity of hazardous and mixed wastes generated at the facility. The purpose of this report is to demonstrate compliance with the WIPP Hazardous Waste Facility Permit (Permit) Part 2, Section 2.4, which states:

*The Permittees shall implement and maintain a waste minimization program to reduce the volume and toxicity of hazardous and mixed wastes generated at the facility, as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.73(b)(9)). The waste minimization program shall include proposed, practicable methods of treatment and storage currently available to the Permittees to minimize the present and future threat to human health and the environment. The waste minimization program shall include the following items:*

- 1. Written policies or statements that outline goals, objectives, and methods for source reduction and recycling of hazardous and mixed waste at the facility;*
- 2. Employee training or incentive programs designed to identify and implement source reduction and recycling opportunities for all hazardous and mixed wastes;*
- 3. Source reduction or recycling measures implemented in the last five years or planned for the next federal fiscal year;*
- 4. Estimated dollar amounts of capital expenditures and operating costs devoted to source reduction and recycling of hazardous and mixed waste;*
- 5. Factors which have prevented implementation of source reduction or recycling;*
- 6. Summary of additional waste minimization efforts that could be implemented at the facility that analyzes the potential for reducing the quantity and toxicity of each waste stream through production process changes, production reformulations, recycling, and all other appropriate means including an assessment of the technical feasibility, cost, and potential waste reduction for each option;*
- 7. Flow charts and/or tables summarizing all hazardous and mixed waste streams produced by the facility by quantity, type, building or area, and program; and*
- 8. Demonstration of the need to use those processes which produce a particular hazardous or mixed waste due to a lack of alternative processes, available technology, or available alternative processes that would produce less volume or less toxic waste.*

*The Permittees shall submit to the Secretary a report regarding progress made in the waste minimization program in the previous year. The report shall address items 1 – 8 above, shall show changes from the previous report, and shall be submitted annually by December 1 for the year ending the previous September 30<sup>th</sup>.*

This report is prepared by the Permittees (the U.S. Department of Energy [DOE] and Salado Isolation Mining Contractors, LLC [SIMCO]) in accordance with Permit Part 2, Section 2.4. It describes how the Permittees addressed Permit Part 2, Section 2.4 items 1 to 8 during federal fiscal year (FY) 2025 (October 1, 2024, to September 30, 2025) and any changes made since the previous report.

1. *Written policies or statements that outline goals, objectives, and methods for source reduction and recycling of hazardous and mixed waste at the facility.*

The *Waste Isolation Pilot Plant Environmental Policy Statement* (EA02EC14-1-0) establishes and communicates SIMCO's five strategic principles (i.e., environmental protection, compliance obligations, environmental performance objectives, sustainable environmental management, environmental communication) which personnel are to uphold to ensure environmental protection is of central importance during activities supporting the WIPP project. These strategic principles include goals and objectives fulfilled through the implementation of the *Waste Isolation Pilot Plant Environmental Management System* (WP 02-EC.14) whose suitability, adequacy, and effectiveness are confirmed through continual conformance to the International Standards Organization (ISO) 14001:2015 standard. This continued conformance guarantees continual improvement of various environmental performance indicators through the completion of applicable environmental targets, including those related to waste minimization and recycling efforts.

The Permittees continue to communicate and educate project personnel regarding the data required for accurate reporting under the Waste Minimization Program. These actions are implemented through Environmental Management System (EMS) core support programs including the *Waste Isolation Pilot Plant Sustainable Procurement Plan* (WP 02-EC.07) and the *Waste Isolation Pilot Plant Pollution Prevention Program* (WP 02-EC.11). Core program components are captured and reported through the EMS. Additional waste minimization methods specific to hazardous and mixed wastes are described in the *Low-Level and Mixed Low-Level Waste Management Plan* (WP 02-RC.05) and the *Hazardous and Universal Waste Management Plan* (WP 02-RC.01). The *Hazard Communication and Hazardous Materials Management Plan* (WP 12-IH.02-4) also stresses the importance of minimizing waste and hazardous materials.

2. *Employee training or incentive programs designed to identify and implement source reduction and recycling opportunities for all hazardous and mixed wastes.*

Waste Isolation Pilot Plant facility employees (inclusive of subcontractors) receive initial and annual refresher General Employee Training (GET-INT) that incorporates content outlining waste management and recycling expectations, pollution prevention strategies, waste minimization strategies, and sustainability expectations. Employees involved in universal or special site-generated waste management and/or low-level waste handling activities receive Hazardous Waste Worker Initial training (HWW-101), including but not limited to classroom and hands-on training to ensure that they are qualified to perform their assigned tasks. Classroom and hands-on field training emphasizes the

importance of waste minimization, source reduction, and recycling strategies. Refresher training is required annually (HWW-102).

The HWW training courses include practical information concerning the methods for reducing the volume of hazardous waste generated. This includes the procurement and use of less hazardous chemicals/materials, opportunities for recycling, reuse, and reducing the quantities purchased. Additionally, Environmental Management System Awareness Training (ENV-100) is required of all employees and provides an outline of the EMS and includes the expectations of continued environmental protection, waste minimization, pollution prevention, and procurement of sustainable products and services.

On Earth Day, WIPP personnel handed out reusable bags to support a Carlsbad ordinance banning the use of single-use plastic bags. Additionally, WIPP continued a past initiative to reduce plastic water bottle usage by handing out reusable water bottles to employees.

In previous years, the Pollution Prevention (P2) Program implemented single-stream recycling, which required personnel to be more conscious of placing the proper materials in the correct recycling containers. Single-stream recycling is a part of WIPP's reduction in municipal solid waste (MSW). The MSW recycling is described under item 3 below. Recycling education and awareness was reinforced through internal communications and posters encouraging the participation and proper use of the appropriate recycling bins and associated recycling centers.

*3. Source reduction or recycling measures implemented in the last five years or planned for the next federal fiscal year.*

The following methods are used to reduce the generation of waste:

- Source separation for MSW recycling.
- Conducting waste characterization sampling of containerized liquids generated from site operations.
- Reuse and transfer of surplus materials.
- Project planning to incorporate recycling and reuse into project implementation.
- Eliminate fluorescent lamp usage in the UG.
- Eliminate fluorescent lamp usage on the surface.
- Reduction and elimination of restricted materials such as aqueous film-forming foam containing PFAS.
- Conducting P2/sustainability reviews for planned work.

Waste Isolation Pilot Plant facilities have bins available that are separate from trash bins to provide initial source separation of recyclables. The recycling bins are picked up by a vendor and separated further before being sent to the final recycling destination. In FY 2025, the WIPP project diverted 274.59 metric tons of discarded materials that were recycled. The volume of recycled materials decreased from FY 2024, during which 333.29 metric tons of MSW was diverted from New Mexico landfills (figure 2). However, recycling of copper, steel, tin, aluminum, communication wires, and ferrous and non-ferrous iron (mixed metals) from the two capital projects: the construction of the Underground Ventilation System (UVS) and Shaft #5, saw a significant increase in mixed metals

recycling from 72.13 metric tons in 2024 to 357.70 metric tons. In addition, 39.81 metric tons of electronic equipment recycled this FY compared to 38.82 metric tons recycled last FY.

In FY 2025, Site Environmental Compliance (SEC) sampled and analyzed each tote of water brought up from the UG Waste Shaft Sump for the toxicity characteristic identified in 40 CFR §261.24. This was in lieu of characterizing all totes conservatively as hazardous waste. Based on the analytical results showing the concentrations below the regulatory maximum concentrations in 40 CFR §261.24, Table 1, the water (approximately 5,600 gallons) was dispositioned as non-hazardous.

In FY 2025, approximately 900 gallons of leftover unused ethylene glycol product from the UVS project was claimed by WIPP Engineering for future use. This will reduce the need for future coolant orders.

The Waste Isolation Pilot Plant facility personnel planned the replacement project for two 280-ton chillers to incorporate the following recycling and waste reduction features:

- Reporting showed 387 pounds of R-22 refrigerant were reclaimed from the old units and recycled per 40 CFR Part 82, Subpart F requirements by a WIPP subcontractor with the proper licensing requirements.
- Ventilation engineers selected two 280-ton chillers to replace these units that arrived with pre-loaded refrigerant which avoided direct hazardous materials management by WIPP personnel during the installation.
- The new chiller's manufacturer recycled the replaced units off site.

In FY 2025, all UG fluorescent light fixtures in the UG were inventoried and replaced with light emitting diode (LED) lamps and fixtures to eliminate the use of fluorescent lights, which are universal waste (UW). Additionally, SIMCO is replacing indoor and outdoor mercury-containing lamps on the WIPP surface as part of an ongoing long term WIPP mercury lamp usage plan.

The P2/sustainability review personnel perform screens on planned work and procurement to identify potential waste minimization and sustainability opportunities. During a sustainability review of planned work to replace strobe lights used for marking the location of self-contained breathing apparatus caches in the UG, SEC was able to recommend an LED alternative which was accepted.

The Permittees maintain an active recycling/reuse program and strive to continually improve performance in this area while being vigilant in exploring new recycling venues. Coffee-pod recycling was expanded from an FY 2024 pilot program throughout the WIPP site and in-town facilities. Eyeglass recycling was piloted in FY 2025. A Personal Protective Equipment (PPE) Reuse Project was initiated in front of the WIPP facility Engineering Building as part of a Health and Safety Committee idea to exchange PPE such as high visibility vests and gloves between departments. Property Management also maintains and shares an excess list of office equipment such as file folders and staplers available for reuse. Over the past 5 years, the recycling/reuse program for the WIPP project has encompassed the following materials (figure 1):

- Aluminum cans
- Antifreeze
- Asphalt/concrete
- Batteries (e.g.,

- nickel/cadmium, lithium-ion, alkaline, lead-acid)
- Cardboard
- Circuit boards
- Electrical ballasts
- Electronic equipment
- Office equipment
- Ink/toner cartridges
- Lamps/lighting fixtures
- Mixed metals
- Paper
- Number 1 polyethylene terephthalate plastic
- Tires/rubber
- Wood pallets
- Used oil and oil filters
- Hard hats and safety wear
- Single-serve coffee pods
- Eyeglasses

An energy audit to be conducted in FY 2026 will help with eliminating mercury-containing fluorescent and high-intensity discharge lamps on the surface of the WIPP site. Continuing efforts are underway to change the Hilti cartridges used in the UG for fastening equipment/materials to a lead-free product. Additionally, P2 opportunity assessments will be revived and will initially focus on UG source reduction and recycling opportunities.

Figure 1 shows materials that were gathered and sent offsite for recycling to avoid landfill disposal in FY 2025.

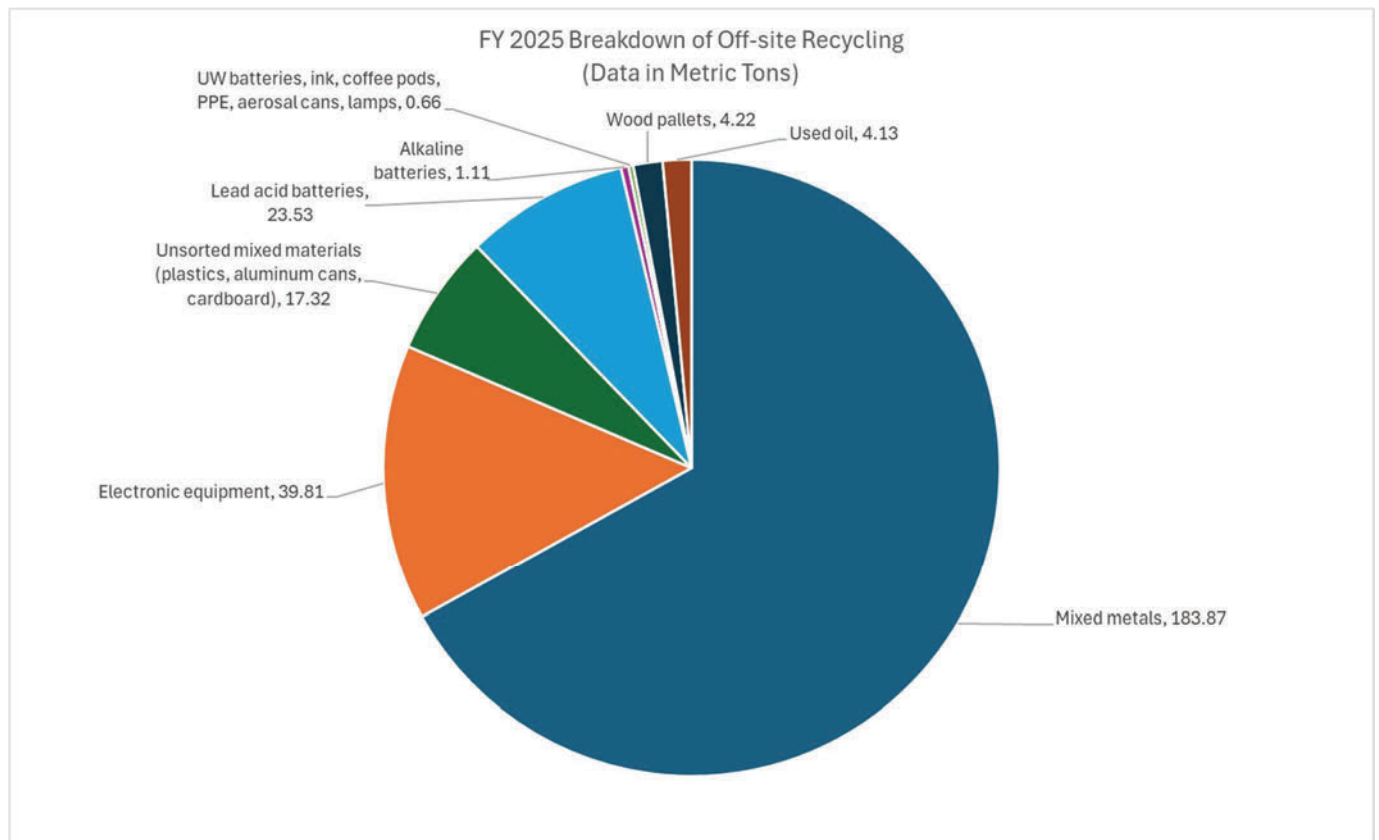


Figure 1 — FY 2025 Breakdown of Off-site Recycling

Figure 2 shows volume of materials that were gathered and sent off site for recycling (diverted from landfill disposal) in FY 2025 as compared to FY 2024.

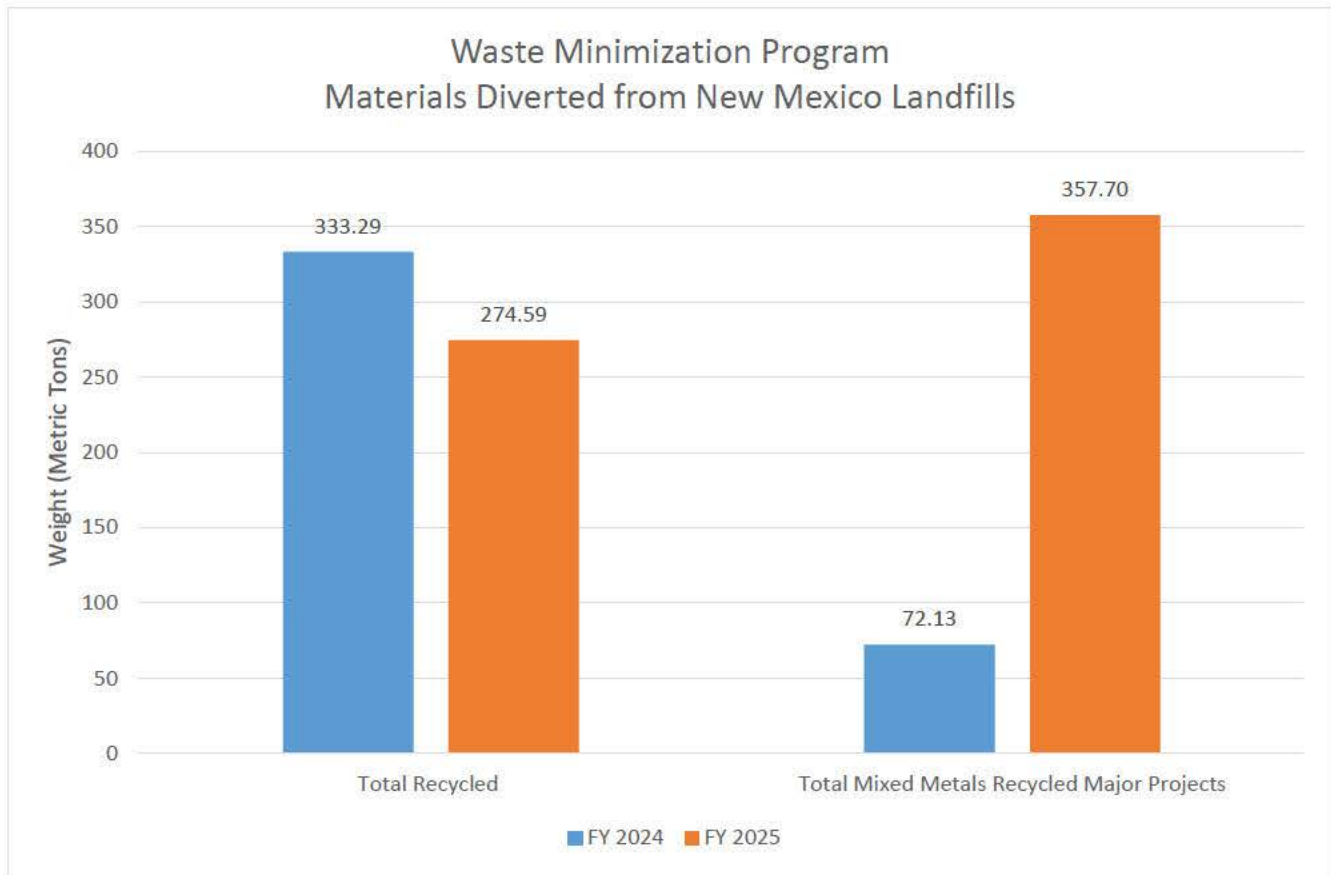


Figure 2 – Waste Minimization Program Materials Diverted From New Mexico Landfills

The WIPP project has made significant efforts to reduce, reclaim, and recycle refrigerants. Figure 3 demonstrates the reduction in refrigerant use since FY 2011. Negative numbers indicate that WIPP returned more refrigerant to supply than used. It demonstrates the commitment to source reduction as a part of WIPP’s overall waste minimization programs. Refrigerant recovery is conducted in accordance with 40 CFR Part 82, Subpart F, *Recycling and Emissions Reduction*.



Figure 3 – WIPP Annual Refrigerant Purchased and Returned

4. *Estimated dollar amounts of capital expenditures and operating costs devoted to source reduction and recycling of hazardous and mixed waste.*

The FY 2025 budget for promoting and implementing the P2 Program and waste minimization was \$261,997. This funding allocation was used for staffing compensation, environmental awareness, and implementation of the EMS and Waste Minimization Program.

As in previous years, significant focus was placed on continuous improvement; reaching out to and educating employees; recycling clean, empty, and dry items; and sustainable procurement methods.

5. *Factors which have prevented implementation of source reduction or recycling.*

The EMS continues to be supported by the Environmental Management System Steering Committee. The committee, composed of cross-departmental personnel, helps drive continual improvement of environmental performance via the EMS.

Local recyclers have not yet increased their acceptance criteria for all waste streams generated by the WIPP project. Due to the remote location of the WIPP site what is considered recyclable through the P2 Program is limited. Additionally, certain activities generate radiologically contaminated items, including PPE, that cannot be reused or recycled regardless of the original material. In FY 2025, the removal of the UVS elbow and Station A added 22,000 and 47,000 pounds to the WIPP low-level waste (LLW) inventory, which is two-thirds of the total LLW volume.

Although awareness campaigns and training are continually being created and distributed to project personnel, a lack of employee participation of the Waste Minimization Program may limit reduction and recycling efforts. Communication and training to educate employees of waste minimization and recycling requirements will be continued through the next FY. Support of the *Waste Isolation Pilot Plant Environmental Policy Statement* by senior leadership will also continue.

6. *Summary of additional waste minimization efforts that could be implemented at the facility that analyzes the potential for reducing the quantity and toxicity of each waste stream through production process changes, production reformulations, recycling, and all other appropriate means including an assessment of the technical feasibility, cost, and potential waste reduction for each option.*

Facility personnel will continue to screen credit card purchases for sustainability requirements to allow for source reduction screening of new materials brought to the facility utilizing the US General Services Administration Clearinghouse, the SFTool (formerly Sustainable Facilities Tool) by the National Institute of Building Sciences, and USDA BioPreferred. These programs help reduce the toxicity, energy intensity, and/or increase the recyclability of materials brought to the facility.

Facility personnel will continue to review excess property forms to screen for hazardous materials for disposal as well as the possibility of recycling or reuse of excessed property such as computers, cell phones, and other electronic devices. In FY 2025, this resulted in the recycling of 39.81 MT of electronic equipment through a government vendor. The recycled electronics included 155 computers, 125 monitors, and 10 printers.

With future use of Shaft #5, the Air Intake Shaft is converted to an exhaust shaft for Construction Circuit air by routing the air through a plenum and ducting to an unfiltered exhaust stack. This should reduce particulates in the Underground Ventilation System exhaust and therefore reduce particulate build-up on the roughing filters in the New Filter Building. This reduction of particulates on the filters should provide for a longer time between filter replacement and reduce the amount of filter waste.

7. *Flow charts and/or tables summarizing all hazardous and mixed waste streams produced by the facility by quantity, type, building or area, and program.*

Table 1 summarizes the amounts of hazardous waste, LLW and mixed LLW generated between October 1, 2024, and September 30, 2025. The table also includes the data on treatment and disposal processes used for each waste stream.

**Table 1 – FY 2025 SUMMARY TABLE FOR OFF-SITE DISPOSITION OF HAZARDOUS AND MIXED WASTES**

<b>Waste Category</b>	<b>Waste Description</b>	<b>Disposal/Treatment</b>	<b>Weight (pounds)</b>	<b>Weight (Metric Tons)</b>
Hazardous waste	Broken lead-acid batteries	Battery recycling	176	0.079
Hazardous waste	Lead-contaminated oil	Cement kiln for energy recovery	243	0.11
Hazardous waste	Mercury-vapor lamps	Recycling/reclamation	970	0.439
Hazardous waste	Fuel mixed with water, epoxy, gasoline spill cleanup, dirt/gravel, used oil, alcohol and denatured rags, ethyl alcohol, off-spec paint supplies, lead bricks	Incineration	3,537	1.604
Hazardous waste	Brine water, waste shaft sump water, used oil	Landfill	23,126	10.489

**Table 2 – FY 2025 SUMMARY TABLE FOR OFF-SITE DISPOSITION OF RADIOACTIVE WASTE**

Waste Category	Waste Description	Disposal/Treatment	Weight (pounds)	Weight (Metric Tons)
Low-Level Waste (LLW)	Over-Sized LLW Debris (UVS Elbow), Station A Area Ductwork Elbow, Radioactive Waste Cleanup, Radioactive Sources and PPE, HEPA filters	Landfill	129,324	58.668
Mixed Low-Level Waste (MLLW)	Station A Area Ductwork Elbow, CLR Probe clean, Rad contaminated Pb-Acid Battery, Rad instruments/electronics, HEPA filters	Landfill	1771.9	0.803

HEPA – High-Efficiency Particulate Air

8. *Demonstration of the need to use those processes which produce a particular hazardous or mixed waste due to a lack of alternative processes, available technology, or available alternative processes that would produce less volume or less toxic waste.*

Processes required for successful operations that contribute to the generation of site hazardous, mixed LLW, and LLW as noted in the table above are necessary to safely complete the mission of the WIPP project. However, there are ongoing efforts to review programs, work packages, and procurement acquisition to reduce the generation of hazardous waste. Currently, a project is in-works to reduce hazardous waste.

This report will be posted to the Information Repository in accordance with Permit Part 1, Section 1.14.