



Department of Energy
Carlsbad Field Office
P. O. Box 3090
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NOV 27 2019

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

Subject: Transmittal of the Waste Isolation Pilot Plant 2019 Waste Minimization Report, Permit Number NM4890139088-TSDF

Dear Mr. Kieling:

The purpose of this letter is to provide you with the Waste Isolation Pilot Plant 2019 Waste Minimization Report.

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

If you have any questions, please contact Mr. Michael R. Brown of the Carlsbad Field Office at (575) 234-7476.

Sincerely,

Signatures on file

Kirk D. Lachman
Acting Manager
Carlsbad Field Office

Sean Dunagan
President and Project Manager
Nuclear Waste Partnership, LLC

Enclosure

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

*ED denotes electronic distribution

Waste Isolation Pilot Plant
2019 Waste Minimization Report
6 Pages

Waste Isolation Pilot Plant 2019 Waste Minimization Report

A waste minimization program is in place at the Waste Isolation Pilot Plant (WIPP) facility. The goal of this program is to reduce the volume and toxicity of hazardous and mixed wastes generated at the facility. The purpose of this report is to comply 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 30th.

This report was prepared by the Permittees (the U.S. Department of Energy [DOE] - Carlsbad Field Office [CBFO] and the Nuclear Waste Partnership LLC [NWP]) in accordance with Permit Part 2, Section 2.4. This report describes how the Permittees addressed items 1-8 during Fiscal Year 2019 (FY19) (October 1, 2018, through September 30, 2019). This report describes 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 *WIPP Environmental Policy Statement*, DOE/WIPP 04-3310 establishes the Permittees' strategic level environmental objectives. This policy formally communicates standards that ensure that facility personnel practices environmental protection as a core business principle. This commitment is documented by the implementation of the *Environmental Management System (EMS)*, DOE/WIPP 05-3318, made evident through the International Organization for Standardization (ISO) 14001:2015 certification. Certification to the ISO 14001:2015 standard is verified through an independent third party auditing body. Continued certification to the ISO standard embeds continuous improvement into WIPP facility operations, specifically through to the EMS program that requires improvements related to waste minimization and recycling.

The Permittees are committed to "...continually plan, perform, assess, and improve the environmental performance of the WIPP." The *WIPP Environmental Policy Statement* (DOE/WIPP 04-3310) was reported and updated active as of April 17, 2018. The *Environmental Management System* (DOE/WIPP 05-3318) was reported and updated active as of April 25, 2018. The facilities ISO 14001:2015 certification remains in conformance as of November 7, 2019, remaining relevant through May 28, 2021.

The Permittees continue to communicate and educate site personnel regarding the data required for accurate reporting under the waste minimization programs. These actions are implemented through EMS core support programs including the *WIPP Sustainable Procurement Plan* (WP 02-EC.07) and the *WIPP Pollution Prevention (P2) Program Plan* (WP 02-EC.11). These core program plans implement standards that outline, define, and support the waste minimization strategy stated in Executive Order (EO) 13834, *Efficient Federal Operations*, and those required by the DOE Orders 436.1, *Departmental Sustainability* and 436.1-1, *Federal Sustainable Print Management*. Core program components are captured and reported through the EMS.

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

Every WIPP employee receives General Employee Training. This includes content communicating general awareness of the Permittees' EMS program, the waste management and recycling expectations, site pollution prevention strategy, facility waste minimization strategy, and sustainability expectations. Employees involved in universal or special site generated waste management and/or low-level waste handling activities receive additional training to ensure that they are qualified to perform their assigned tasks. The majority of these training courses contain elements in which waste minimization, source reduction, and recycling strategies are included. In addition, managers and supervisors receive training, as applicable to their positions, which includes a review of the Pollution Prevention (P2) program.

During FY19, procurement classes were held for the General Services Administration (GSA) purchasing standards emphasizing the use of the GSA Sustainable facilities tool (SFtool) to

determine any given product's sustainability requirement. Key expectations associated with procurement training ensure that a source reduction and waste minimization strategy are communicated specific to acquiring products with the following classifications:

- Classifications that include recycled content (e.g., BioPreferred and/or BioBased content)
- EnergyStar
- Water Sense
- SaferChoice – (i.e., less toxic chemicals)
- Significant New Alternative Policy (SNAP)
- Electronic Procurement Evaluation Assessment Tool (EPEAT)
- Federal Energy Management Program (FEMP)
- Ozone Depleting Substance (ODS) exclusions
- Reducing site generated Greenhouse Gas (GHG) emissions

In FY19, ENV - 100 was used as an e-learning training module, with an overarching objective to provide general knowledge regarding the EMS and how it affects work at the WIPP facility. The information provides a general working knowledge referencing ISO 14001:2015, EO 13834, DOE Order 436.1, and the Permit. The ENV - 100 course is required for existing Management and Operating Contractor (MOC) personnel and new hires. The course is a biennial requirement for MOC WIPP personnel. The course is available online on the Technical Training web site.

During FY17, the P2 program implemented a single stream recycling method. This required more due diligence for WIPP staff in placing the proper material in the correct recycle container. In FY19, the banner campaign continued, reinforced by multiple site wide emails, flyers, kiosk postings, and cabinet displays encouraging participation and proper use of single stream recycling bins and associated recycling centers.

As part of the Earth Day 2019 celebration, WIPP employees were presented with a Hot/Cold Thermos displaying the Sustainable WIPP logo. These Thermos's were well received by WIPP project staff, providing the P2 and sustainability programs the opportunity to promote program awareness of the Sustainable WIPP goals through continued participation. The Earth Day recognition incentive program will be repeated in FY20. The focus will remain on items to reinforce sustainability and waste reduction.

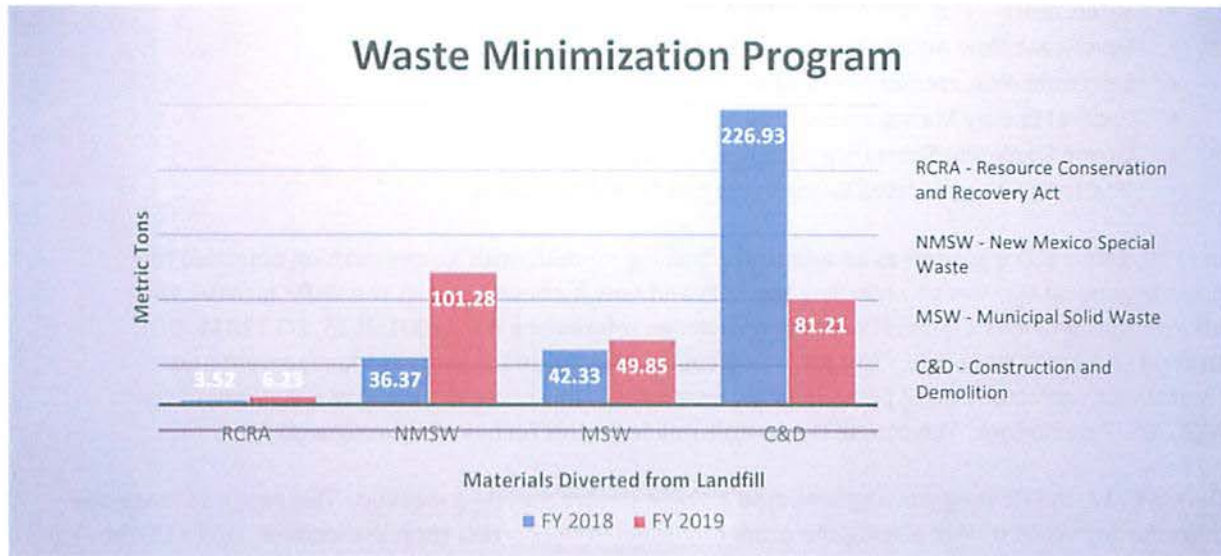
3. Source reduction or recycling measures implemented in the last five years or planned for the next federal fiscal year.

The Permittees maintain an active recycling/reuse program and strive to continually improve performance in this area and are vigilant in exploring new recycling venues. Over the past five years, the Permittees recycling/reuse program at the WIPP facility has encompassed the following materials:

- Aluminum Cans
- Antifreeze
- Asphalt/Concrete
- Batteries (e.g., NiCad, Lithium, Alkaline, Lead Acid)
- Cardboard
- Chain-Link Fence
- Circuit Boards
- Electrical Ballasts
- Electronics
- Office Equipment
- Lamps/Lighting Fixtures
- Metals (various)
- Paper
- Plastic
- Tires

- Ink/Toner cartridges
- Used Oil and Oil Filters
- Wood Pallets/lumber
- Anti-Freeze

In FY19, the WIPP facility diverted 239 Metric Tons from New Mexico landfills. The following graph compares FY18 and FY19.



The Permittees donated and/or diverted recovered products to include computer servers, file cabinets, and office supplies having an asset value of \$233,810.

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

The Permittees' FY19 budget for promoting and implementing P2 and waste minimization was \$248,450. This funding allocation was used for staffing compensation, environmental awareness, and implementation programs of the WIPP EMS and Waste Minimization Program.

In the previous year, significant focus was placed on continuous improvement, additionally in FY19 the focus was on reaching out to employees, teaching clean recycling and sustainable procurement methods. The P2 program also continued reconditioning the older style recycling centers as needed with fresh paint, new labels and recycling signs.

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

The facility EMS program initiated the creation and implementation of an Environmental Management System Steering Committee (EMSSC). The committee is composed of senior level management reporting directly to the NWP President & Project Manager. The committee's base responsibility is to ensure support and funding to the EMS and its supporting programs, including P2 and waste minimization as required by the ISO standard. This EMS program with EMSSC involvement is to elevate EMS, P2 and sustainability program improvements from the top down.

There continues to be no factors that prevent the implementation of the Permittees' waste minimization program. It should be noted that major international recyclers like China that receive

recyclable materials from many U.S. corporations have tightened the acceptance criteria for “clean product” for recycling. In ensuring that WIPP facility recyclable materials will continue to be accepted as a recyclable product, awareness campaigns have been initiated to educate staff of this requirement. The WIPP strives to maintain a viable recycling program.

During FY19, the EMS supported improvements specific to education and communication related to project environmental targets and P2 program strategy. Workers continue to respond to this education and communication as evident by their participation in the waste minimization and recycling programs. The goal of reducing toxicity and volume of hazardous waste generated at the WIPP facility remains in place. Waste streams that have the potential to generate hazardous waste are reviewed regularly to ensure minimization of hazardous constituents while incorporating waste reduction, recycling, and reuse whenever possible.

- 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.*

In the future, the EMS program will encourage expanded networking and baselining opportunities to include facilities within the DOE complex. This action has the possibility of acquiring expanded regional relationships while coordinating with area municipalities and business groups which could lead to addressing gaps associated with the WIPP facility’s geographic isolation. This would further opportunities for recycling at the WIPP facility, enabling the project to operate in a more sustainable and resilient manner.

- 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.*

The following summary table summarizes the type and amount of hazardous, mixed low-level and low-level waste generated by the Permittees between October 1, 2018 and September 30, 2019.

Hazardous, Mixed Low-Level and Low-Level Radioactive Waste Summary Table			
Type of Waste Generated	Area/Program	FY 2018 Metric Tons	FY 2019 Metric Tons
Hazardous Waste			
Waste Water	Waste Shaft and Exhaust Shaft	1.25	0.00
Spill Clean-up	Emergency Response	0.21	0.01
Fluorescent Lamps	Maintenance	0.01	0.00
Miscellaneous	Maintenance	0.04	0.10
Off-spec, Expired or Spent Batteries	Maintenance	0.21	0.04
Flammable Liquids	Maintenance	1.81	1.75
Total Hazardous Waste		3.53	1.90
Mixed Low-Level Waste			
Spent Filters, Personal Protective Equipment, NiCad Batteries	Recovery Activities	0.0	4.18
Low-Level Waste			
Brine Water, Miscellaneous clean-up debris and HEPA filters	Recovery Activities	19.62	30.18
Total Radioactive and Mixed Waste		19.62	34.36

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 at the WIPP facility, contributing to the generation of site hazardous, mixed low-level and low-level radioactive waste as noted in the table above are managed and properly implemented through the waste minimization program. Ongoing efforts to review programs, work packages, and procurement acquisition to reduce the generation of hazardous waste continues. The program, as implemented, currently and effectively serves to protect human health and the environment. Program awareness enhancements to replace forklift batteries and clean operating air compressors are examples of improvements being evaluated for waste reduction as part of EMS oversight.

This report will be placed on the Information Repository in accordance with Permit Part 1, Section 1.14.2.