



Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

NOV 30 2017

Mr. John E. Kieling, 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 2017 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 2017 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.

Please contact Mr. George T. Basabilvazo of the Carlsbad Field Office at (575) 234-7488, if you have any questions regarding this certification.

Sincerely,

Signatures on File

Todd Shrader, Manager
Carlsbad Field Office

Bruce C. Covert, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
R. Maestas, NMED *ED
D. Biswell, NMED ED
E. Tellez, NMED ED
CBFO M&RC
*ED denotes electronic distribution

WASTE ISOLATION PILOT PLANT 2017 WASTE MINIMIZATION CERTIFICATION

In accordance with 20.4.1.500 NMAC (incorporating 40 CFR §264.73(b)(9)), this document certifies that the U.S. Department of Energy and Nuclear Waste Partnership LLC, herein referred to as the Permittees, have a Waste Minimization Program to reduce the volume and toxicity of hazardous and mixed waste generated at the Waste Isolation Pilot Plant (WIPP). This certification addresses the period from October 1, 2016, through September 30, 2017.

Waste minimization is achieved to the degree determined to be economically practicable by the Permittees. Methods implemented at the WIPP facility for treatment, storage, or disposal are the most practicable methods currently available to minimize the present and future threat to human health and the environment.

The WIPP Waste Minimization Certification is maintained in the Operating Record, as required by the Hazardous Waste Facility Permit, Part 1, Section 1.7.10.2. and 20.4.1.500 NMAC (incorporating 40 CFR §264.73(b)(9)).

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.

Signatures on File

**Todd Shrader, Manager
Carlsbad Field Office**

**Bruce C. Covert, Project Manager
Nuclear Waste Partnership LLC**

Waste Isolation Pilot Plant Project 2017 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.

PROGRESS

This report was prepared by the Permittees (the U.S. Department of Energy Carlsbad Field Office and Nuclear Waste Partnership LLC) in accordance with Permit Part 2, Section 2.4. This report describes how the WIPP facility addressed items 1-8 during Fiscal Year (FY) 2017 (17), period beginning October 1, 2016, ending September 30, 2017. 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) serves as the site's formal declaration, establishing management commitment to environmental stewardship. This document, in conjunction with the site's Environmental Management System (EMS) Description (DOE/WIPP-05-3318) and ISO 14001 certification, form the foundation which ensures site commitment to waste minimization and recycling. The Permittees commit to "...continually plan, perform, assess, and improve the environmental performance of the WIPP." The environmental policy statement (DOE/WIPP 04-3310) is current and in effect as of March 2016. The EMS Description (DOE/WIPP-05-3318) is current and in effect as of June 2016. The site's ISO 14001 certification will remain relevant and active beyond the date of this submitted report.

The Permittees continue to educate staff and implement the Environmental Policy Statement. The facility continues to educate staff and implement the EMS – ISO 14001 standards, which are supported by the WIPP Pollution Prevention (P2) Program Plan, WP 02-EC.11. The P2 plan outlines, identifies and supports the core requirements, stating the core requirements mandated under Executive Order (EO) 13693, DOE Order 436.1 and 436.1-1. The core components include annual P2 targets, defined responsibilities, communication, awareness activities, performing assessments to identify waste minimization or reduction opportunities, a recycling program, training, sustainable procurement, and reporting. Changes made to the plan in 2016 were specific to incorporating EO 13693, DOE Order 436.1-1, and adding the word "mixed" as a recycling product descriptor.

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 (GET). The training includes content related to waste management, P2, waste minimization, sustainability and emergency response procedures. Employees involved in waste generation or handling activities and emergency response receive additional training to ensure that they are fully qualified to perform their tasks. Most of these training programs have elements in which waste minimization, source reduction, and recycling strategies are included. In addition, managers receive manager and supervisor training, as applicable to their positions, which includes a review of the P2 program.

During FY17, procurement classes continued to include the General Services Administration

(GSA) purchasing standards that emphasize Recycled content, BioPreferred and/or BioBased content, EnergyStar, Water Sense, SaferChoice - less toxic chemicals, Significant New Alternative Policy (SNAP), Electronic Procurement Evaluation Assessment Tool (EPEAT), Federal Energy Management Program (FEMP), exclusion of products containing Ozone Depleting Substances (ODS), while educating individuals on the importance of reducing site generated greenhouse gas emissions. No other changes to the training program were implemented during FY17.

During FY17, the EMS/Sustainability and P2 program administrator designed and implemented a recycling awareness banner campaign to educate visitors, staff and contractors of the new single stream recycling method introduced in June. This banner campaign was used in site wide emails, flyers, kiosk postings, and cabinet displays which highlighted use and placement of single stream recycling bins and associated recycling centers. The education campaign required an investment of \$2,356.

“Science serves all of us” was the topic for Earth Day 2017 (April 22). This educational opportunity showcased WIPP’s commitment to protecting our nation’s air and water, helping to preserve our plant. Kiosk media information was displayed from April 17 through April 24, 2017 detailing proper battery management, chemical awareness, spill prevention and how “The Team” can reduce the probability of pollution.

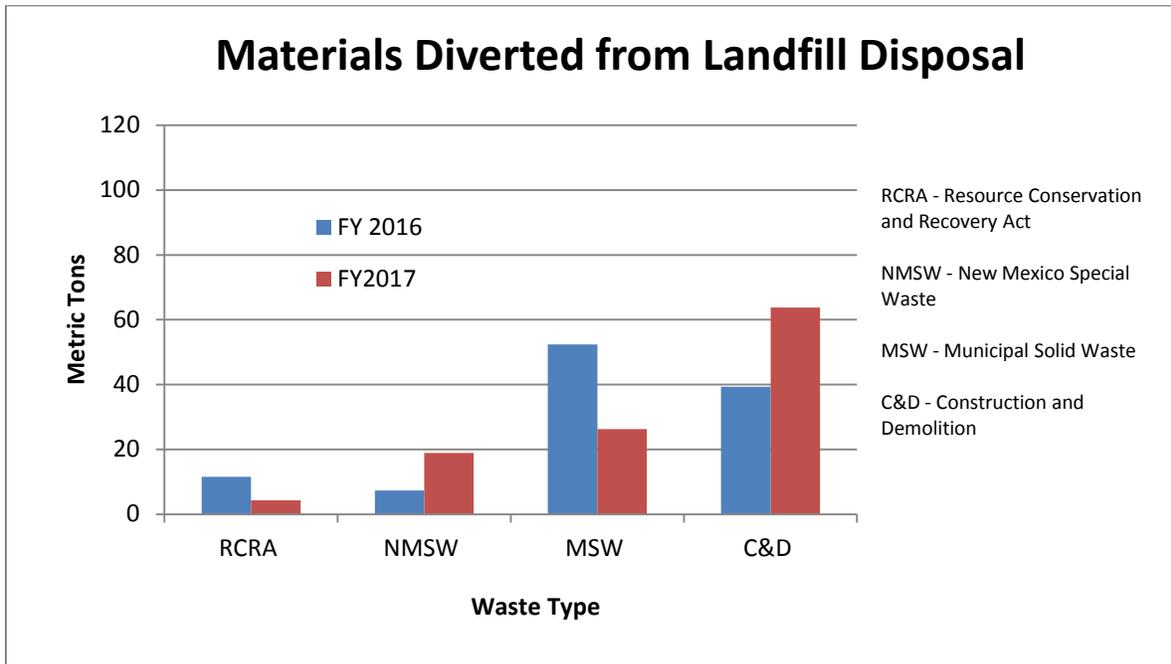
3. Source reduction or recycling measures implemented in the last five years or planned for the next federal fiscal year.

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

- Aluminum Cans
- Antifreeze
- Asphalt/Concreate
- Batteries (e.g., NiCad, Lithium, Alkaline, lead acid)
- Cardboard
- Chain-link fence
- Circuit boards
- Electrical Ballasts
- Electronics
- Office Equipment (e.g., file cabinets, e waste)
- Lamps/lighting fixtures
- Metals (various)
- Mined salt
- Paper
- Plastic
- Tires

- Ink/Toner cartridges
- Used oil and oil filters
- Wood pallets
- Anti-freeze

In FY17, the site diverted 113 Metric Tons (MT) from New Mexico landfills. The graph below compares FY16 and FY17.



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

The Permittees’ FY17 budget for promoting and implementing P2 and waste minimization was \$150,000. This funding allocation was used for staffing, awareness, maintenance, and implementation of the WIPP Waste Minimization Program.

During FY17, significant focus was placed on continuous improvement. The P2 program coordinator continued assessment regarding the previously initiated recycling receptacle replacement plan that was created in FY16. The implemented plan focused on delivering a consistent visual message, enhancing form and function, ultimately encouraging expanded participation. Also during FY17, the program reconditioned and rebranded 11 of the proposed 15 recycling centers. The program administrator introduced six (Ergo Can) recycling center system receptacles (bins), composed of four - 3D graphic bins that could be setup in two different configurations, based upon the space available. The pilot program was expanded in August 2017, to include eight additional Ergo Can systems, the expansion included the addition of a bin for the collection of standard trash.

The continued effort to recondition and rebrand the site recycling center bins utilized the funds allocated during FY16, totaling \$5,627. The P2 program's revenue provided an additional \$4,857 to purchase five more recycling center systems.

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

There continues to be no factors that prevents the implementation of the WIPP waste minimization program. The goal of reducing toxicity and volume of hazardous waste generated on site remains functional. 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.

The WIPP site utilizes a designated 45 foot recycling connex for processing P2 recyclable materials. The connex is used to sort, package and prepare for shipping the majority of the site generated recyclable products. The connex serves to provide the P2 program a visible consistent and physical presence, which serves to enhance and emphasize site management's commitment to support the P2 program. The recycling connex has established electrical power, including air-conditioning and heating, a shipping scale, pallet jack, shelving, packaging supplies, and a designated work area with a chair and desk.

A core component of the P2 program is maintaining site commitment to conducting pollution prevention opportunity assessments (PPOAs). The site's focus has been directed on functions that ensure and support restart operations, thus only three PPOA's were completed during FY17.

A summary regarding P2 waste minimization efforts during FY17 activities are as follows.

Emergency Operations Center

Continued updates to the WIPP Emergency Operations Center (EOC) were completed during FY17. The updates and design improvements included EnergyStar rated computers and digital display screens, recycled content office furniture and the purchase of an emergency stand by generator that operates in the upper 25 percent specific to energy efficiency. The majority of the EOC upgrades were completed in a sustainable manner, recycling of replaced material and electronics was practiced in accordance with site standard and policy. These design modifications have accommodated an increase in personnel, enabling the EOC to enhance operational capacity while increasing drill proficiency training. These facility improvements

ensure WIPP continues to operate in a sustainable manner into the future.

Recycling Program Improvements

Implementation of the single stream recycling collection method during FY17 allowed the site program administrator to focus resources and program enhancements with precision. Efforts to expand emphasis on procurement standards highlighting focus on recycled content office supply products, electronics that meet EnergyStar, FEMP and EPEAT standards, chemicals that meet the SNAP and SaferChoice labeling, WaterSense, BioBased/BioPreferred content, while utilizing SmartWay logistic providers was implemented to ensure sustainability contract language was placed into WIPP Scopes of Work, Purchase Orders, Service Contracts and Construction Projects. This project ensures the majority of purchases and implemented design modifications apply the best management practices approach strategy as defined by the GSA sustainable procurement standards.

Training Program Improvements

The WIPP facility continued to support improvements within site training programs. Continued emphasis was placed on continuity regarding P2 related concepts, designed to ensure the site is delivering a clear, consistent, methodological rationale regarding P2 and sustainability related endeavors. This continuous improvement approach and business rationale continues to work to achieve this goal.

- 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 tables summarizes hazardous, low level waste and mixed low level waste generated by the Permittees, at the WIPP Facility from October 1, 2016 thru September 30, 2017; displayed data does not include materials that were reused (donated) or recycled.

Hazardous and Mixed Waste Summary Table			
Type of Waste Generated	Area/Program	FY 2016 Metric Tons	FY 2017 Metric Tons
Hazardous Waste			
Lab Waste/Off-Spec or Expired	Lab	0.01	0.007
Waste Water	Waste Shaft and Exhaust Shaft Interception Borehole	0.00	0.00

Hazardous and Mixed Waste Summary Table

Type of Waste Generated	Area/Program	FY 2016 Metric Tons	FY 2017 Metric Tons
Spill Clean-up (Gasoline, Battery Acid, Floor Stripper)	Emergency Services	0.29	0.11
Broken Fluorescent Lamps	Maintenance	0.00	0.02
Miscellaneous	Maintenance	2.00	0.31
Flammable Liquids (i.e. gasoline and water mixture, off spec diesel fuel, paints and coatings)	Maintenance	0.00	2.15
Total Hazardous Waste		2.3	2.59
Rad Waste			
Mixed Low Level Waste			
Spent Filters, Personal Protective Equipment, NiCad Batteries	Recovery Activities	6.91	0.0
Low Level Waste			
Brine Water, Miscellaneous clean-up debris and HEPA filters	Recovery Activities	27.72	20.27
Total Mixed Waste		34.63	20.27
Total Waste		36.93	22.86

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 Project generate hazardous/mixed waste as noted in the table above. The waste minimization program serves to reduce the volume and toxicity of hazardous and mixed wastes generated as implemented and maintained. Processes that have the potential to generate hazardous/mixed waste are monitored to ensure present and future protection of human health and the environment. Processes were historically and are planned to remain are evaluated through PPOA process, as appropriate to identify any new options/technology for improving the waste minimization or recycling programs as implemented.

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