



**Department of Energy**  
Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221  
**NOV 19 2012**

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 Annual Waste Minimization Report

Dear Mr. Kieling:

The purpose of this letter is to provide you with the Waste Isolation Pilot Plant Annual Waste Minimization Report. This report is required by and has been prepared in accordance with the WIPP Hazardous Waste Facility Permit Part 2, Permit Condition 2.4.

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 feel free to contact Ms. Susan E. McCauslin at (575) 234-7349 if you have any questions regarding this report.

Sincerely,

**Signature on file**

José R. Francó, Manager  
Carlsbad Field Office

**Signature on file**

M. F. Sharif, Project Manager  
Nuclear Waste Partnership, LLC

Enclosure

cc: w/enclosure  
T. Kliphaus, NMED \*ED  
CBFO M&RC  
\*ED denotes electronic distribution

## **WASTE ISOLATION PILOT PLANT FACILITY 2012 WASTE MINIMIZATION REPORT**

A waste minimization program is in place at the WIPP facility to minimize 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.*

# WASTE ISOLATION PILOT PLANT FACILITY 2012 WASTE MINIMIZATION REPORT

## PROGRESS

This is the second report prepared under Permit Part 2, Section 2.4. It describes the program required under items 1-8. Reports in subsequent years will show changes from 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 (DOE/WIPP 04-3310) is a written policy that provides a strong commitment to pollution prevention and its continual improvement. In the policy, the Permittees commit to "...continually plan, perform, assess, and improve the environmental performance of the WIPP project." This policy was updated in October 2012 to incorporate the management and operating contractor change.

In addition, the Permittees have implemented the WIPP Pollution Prevention (P2) Program Plan, WP 02-EC.11, which identifies and outlines the core components of the program. These components include annual P2 goals, defined responsibilities, communication, and awareness activities, performing assessments to identify waste minimization or reduction opportunities, a recycling program, training, sustainable procurement, and reporting.

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

Every WIPP facility employee receives General Employee Training. The training includes content related to waste management, P2, waste minimization, 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.

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

## WASTE ISOLATION PILOT PLANT FACILITY 2012 WASTE MINIMIZATION REPORT

recycling/reuse program at the WIPP facility has encompassed the following materials:

- Aluminum
- Antifreeze
- Asphalt
- Batteries
- Cardboard
- Circuit Boards
- Electronics
- Fluorescent light bulbs
- High pressure sodium lamps
- Metals
- Mined salt
- Paper
- Plastic
- Used oils
- Storm water

In FY2012, 144 metric tons of materials were recycled. During this time, alkaline batteries and chain link fence were added to the recycling program.

In addition to the materials recycled through the recycling/reuse program, 190,400 gallons of produced ground water associated with a pumping test on Well H-9bR located south of the WIPP facility was used by Eddy County to control dust and allow for compaction of the road base during repairs to Red Road located east of the WIPP facility. This water would have otherwise been discharged to the environment and additional freshwater would have been used for dust control and soil compaction.

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

The Permittees' FY2012 budget for promoting and implementing pollution prevention and waste minimization was \$150,000. This money was used for staffing support to maintain and implement the WIPP facility waste minimization program and to maintain P2 awareness.

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

There are no factors that have prevented the implementation of the WIPP facility waste minimization program to reduce the volume and toxicity of hazardous waste generated from activities or waste derived from the management of TRU mixed waste. Proposed waste streams that could generate hazardous wastes are reviewed regularly to ensure minimization of the hazardous constituents and to incorporate waste reduction, recycling and reuse whenever possible.

## WASTE ISOLATION PILOT PLANT FACILITY 2012 WASTE MINIMIZATION REPORT

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 reformations, recycling, and all other appropriate means including an assessment of the technical feasibility, cost, and potential waste reduction for each option;*

Another core component of the WIPP P2 program is conducting Pollution Prevention Opportunity Assessments (PPOAs). Assessments are performed on selected processes and/or waste streams to evaluate potential for waste minimization, source reduction or recycling. In FY2012, the Permittees performed four PPOAs and implemented the practicable P2 opportunities identified in the assessments. The assessments resulted in the following:

- The groundwater detection monitoring program sampling process was modified such that reagents used to perform the chosen field tests are non-hazardous and consist primarily of deionized water, potassium chloride or sodium chloride. This process modification resulted in the elimination of hazardous waste being generated from the field laboratory.
- A viable option for a wood pallet waste reuse for a local search and rescue dog training facility was identified. As a result, a used wood pallet collection and reuse program was developed and is currently being implemented.
- A viable option for an alkaline battery recycling program was identified. An alkaline battery recycling facility was identified and an alkaline battery recycling program was developed and implemented using the “Big Green Box” program established by the battery recycling facility.
- The implementation of a composting system for cafeteria wastes, coffee grounds, paper towels, etc. was evaluated. The evaluation showed that the construction of a small composting system would present a high initial cost with very little payback estimated at two years. The estimated payback was calculated, optimistically, using the total weight of solid waste disposed of for FY2011, in which wood pallet waste contributed substantially. Because a wood pallet waste recycling program was developed, it was determined that the cost/benefit would not justify implementing a composting program at the WIPP facility.

## WASTE ISOLATION PILOT PLANT FACILITY 2012 WASTE MINIMIZATION REPORT

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.*

There was no mixed-waste generated by the Permittees at the WIPP facility during this reporting period. The following table summarizes hazardous waste generated by the Permittees, at the WIPP facility, from October 1, 2011, to September 30, 2012.

Waste Summary Table

<b>Type of Waste Generated</b>	<b>Metric Tons</b>
Lab Waste	0.10
Waste Water	5.33
Off-spec and Expired Materials	0.25
Spent Filters	0.22
Miscellaneous	0.21
<b>Total RCRA Waste</b>	<b>6.11</b>

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 the successful operation of the WIPP facility generate minimal hazardous/mixed waste as noted in the Table above. In accordance with the Permit, a waste minimization program to reduce the volume and toxicity of hazardous and mixed wastes generated at the facility has been implemented and maintained. Processes that have the potential to generate hazardous/mixed waste are monitored to ensure protection of the environment. They are also evaluated as appropriate to identify any new options/technology for waste minimization or recycling through PPOAs.