



## Department of Energy

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Mr. Anthony R. Hatton, Director  
Kentucky Department for Environmental Protection  
Division of Waste Management  
200 Fair Oaks Lane, 2<sup>nd</sup> Floor  
Frankfort, Kentucky 40601

PPPO-02-2833640-15

Dear Mr. Hatton:

**2014 SITE TREATMENT PLAN ANNUAL UPDATE FOR THE U.S. DEPARTMENT OF ENERGY, PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, AND THE PADUCAH SITE TREATMENT PLAN WASTE MINIMIZATION PROGRESS REPORT**

**Background**

The September 10, 1997, Agreed Order (File No. DWM-30039-042) between the Kentucky Department for Environmental Protection (KDEP) and the U.S. Department of Energy (DOE) requires submittal of an annual update regarding implementation of the Site Treatment Plan (STP). Additionally, Paragraph 32 of the Agreed Order requires that DOE implement a Waste Minimization and Pollution Prevention (WM/PP) Awareness Program to minimize the amount of new wastes added to the STP each year. The Agreed Order requires that a progress report be submitted annually on or before March 31 of each year for the previous calendar year (CY).

This letter constitutes submittal of DOE's annual update for the reporting period January 1 to December 31, 2014, to satisfy Paragraph 30 of the Agreed Order and submittal of the WM/PP progress report to satisfy Paragraph 32 of the Agreed Order.

LATA Environmental Services of Kentucky, LLC, (LATA Kentucky) is the contractor responsible programmatically and operationally for managing mixed low-level waste (MLLW). LATA Kentucky is responsible for ensuring overall compliance with the STP/Agreed Order.

On July 9, 2009, discussions between Paducah DOE Site Office personnel and KDEP personnel resulted in agreement that both the quarterly progress report and the required annual STP update could be submitted in letter format. Recent discussions between LATA Kentucky personnel and KDEP personnel indicated that the WM/PP also could be included in letter format with this submittal.

### **Annual STP Update**

Approved Amendments or Revisions: No amendments or revisions were approved by the Cabinet during CY 2014.

Volume of STP MLLW: No waste is being managed under the STP at the Paducah Gaseous Diffusion Plant (PGDP) as of this date. There was an inventory of MLLW at the end of December 2014 that is being reported in this annual update; however, this waste was shipped off-site on February 10, 2015.

Update of the Tables of Mixed Wastes Indicating the Volume of Waste in Storage at the end of the Previous Year and the Estimated Volume Projected to be Placed in Storage in the Next Five (5) Years: The following tables of Appendix A of the STP are being updated to reflect the volume of STP MLLW (i.e., stored in excess of one year) in storage on December 31, 2014. The waste added in 2014 to the STP is best reflected within the STP waste stream codes as PA-C020, based on the Resource Conservation and Recovery Act characteristics and commercial stabilization treatment/disposal pathway.

**Table 1. The DOE/PGDP MLLW Streams, Weights, and Volumes**

<b>Waste Stream</b>	<b>Name</b>	<b>Weight (kg)</b>	<b>Volume (m<sup>3</sup>)</b>	<b>L/S *</b>	<b>EPA Codes</b>	<b>Table</b>
PA-C020	Sodium Carbonate Sludge	593.31	1.824	S	D006 D007 D008	7.1
PA-C020	Sodium Carbonate Solution Removed from Sludge	89.81	0.209	L	D006 D007 D008	7.1
	<b>Totals</b>	<b>683.12</b>	<b>2.033</b>			

\*L/S: Liquid (L) or Solid (S)

**NOTE:** Weights and volumes are taken from the database records and may vary due to actual weight versus estimated.

**Table 7.1. The DOE/PGDP Waste Targeted for Commercial Stabilization**

Item	Waste Stream	Name	Weight (kg)	Volume (m <sup>3</sup> )	L/S*	EPA Codes	Compliance Date
1	PA-C020	Sodium Carbonate Sludge	62.6	0.209	S	D006 D007 D008	NA**
2	PA-C020	Sodium Carbonate Sludge	151.5	0.323	S	D006 D007 D008	NA**
3	PA-C020	Sodium Carbonate Solution Removed from Sludge	89.81	0.209	L	D006 D007 D008	NA**
4	PA-C020	Sodium Carbonate Sludge	94.35	0.323	S	D006 D007 D008	NA**
5	PA-C020	Sodium Carbonate Sludge	87.09	0.323	S	D006 D007 D008	NA**
6	PA-C020	Sodium Carbonate Sludge	114.31	0.323	S	D006 D007 D008	NA**
7	PA-C020	Sodium Carbonate Sludge	83.46	0.323	S	D006 D007 D008	NA**
<b>Totals</b>			<b>683.12</b>	<b>2.033</b>			

\*L/S: Liquid (L) or Solid (S)

**NOTE:** Weights and volumes are taken from the database records and may vary due to actual weight versus estimated.

**\*\*NA** – This waste was identified in 2014 for inclusion in the STP; therefore, there is no established compliance date.

**Table 13. The DOE/PGDP Mixed Waste Added in 2014**

Waste Stream	Name	Weight (kg)	Volume (m <sup>3</sup> )	EPA Codes
PA-C020	Sodium Carbonate Sludge	593.31	1.824	D006 D007 D008
PA-C020	Sodium Carbonate Solution Removed from Sludge	89.81	0.209	D006 D007 D008
<b>Totals</b>		<b>683.12</b>	<b>2.033</b>	

**NOTE:** Weights and volumes are taken from the database records and may vary due to actual weight versus estimated.

Over the next five years, the following volumes of MLLW are forecast to be generated.

- CY 2015—720 m<sup>3</sup>
- CY 2016—1,040 m<sup>3</sup>
- CY 2017—1,030 m<sup>3</sup>
- CY 2018—120 m<sup>3</sup>
- CY 2019—60 m<sup>3</sup>

Proposed Amendments or Revisions to the Approved STP and Identification of Any Changes Included in the Annual Update Which Require the Cabinet's Approval as an Amendment or a Revision: There are no proposed amendments or revisions to the approved STP.

Identification of Additional or New Compliance Dates: Currently no waste is being managed under the STP; therefore, this is not applicable at this time.

Current Status of the Projects Described in the Approved STP and an Explanation of How the Work Conducted Supports Compliance with the Schedules in the Approved STP: Currently, no waste is being managed under the STP; therefore, this is not applicable at this time.

Description of any Projected Difficulties in Meeting the Compliance Dates: No waste remains on-site with compliance dates. The project does not anticipate any issues/difficulties in meeting future compliance dates.

Description of DOE's Funding for Approved STP Activities and Funding Issue that is Likely to Significantly Impact Compliance Dates: The MLLW reported in Table 1, Table 7.1, and Table 13 under this update was funded adequately and the waste stream was shipped off-site for disposition on February 10, 2015. No funding issues have been identified that impact any established compliance dates under the approved STP.

Index or Chart that Clearly Indicates all Pages of the Approved STP Affected by Amendments or Revisions of the Approved STP during the Previous Year: There were no amendments or revisions in the previous year; therefore, the approved STP has not been affected.

Summary of New Waste Streams Generated or Identified within the Previous Year and Additional Waste Characterization Information Regarding Existing, New or Projected Waste Streams: There were no new waste streams generated or identified in 2014. Wastes proposed for addition to Table 13 fit previous STP waste stream identifications.

List of all Mixed Wastes that Meet the Treatment Standards of the Land Disposal Restrictions (LDRs) and all Supporting Information: Table 1 provides the MLLW in inventory at the end of December 2014. This waste does not meet LDR Treatment Standards; therefore, this waste required stabilization prior to land disposal. This waste was shipped to a treatment facility for the necessary stabilization on February 10, 2015.

**Annual WM/PP Progress Report**

The waste minimization goals related to the STP are as follows:

- Minimize the generation of hazardous and mixed waste;
- Segregate hazardous waste from radioactive mixed waste; and
- Reduce the volume, toxicity, and mobility of waste generated.

Implementation of these goals continues to ensure that the amount of waste that requires being added to the STP each year is minimized to the extent practicable.

Information regarding the PGDP WM/PP Program is provided in the current version of the *Pollution Prevention/Waste Minimization Program Plan for the U.S. Department of Energy Paducah Remediation Project*, PAD-PROG-0015. All PGDP projects are evaluated for WM/PP opportunities. WM/PP activities at PGDP related to the STP WM/PP goals include the following:

- Reducing the quantity of wastes generated at their sources;
- Treating wastewaters on-site to meet discharge limitations;
- Draining, decanting, drying, dewatering, evaporating, and otherwise removing liquid from wastes when possible;
- Segregating, sorting, consolidating, and reducing the volume of like wastes;
- Reusing or recycling materials; and
- Reevaluating wastes determined to be hazardous or radioactive.

Following is a brief discussion of the main accomplishments in 2014:

- Recycled 232 pounds of various light bulbs from radiological areas;
- Burned 1,500 pounds of used oil for energy from radiological areas; and
- Recycled 60 pounds of batteries from radiological areas.

If you have any questions or require additional information, please contact Lisa Santoro at (270) 441-6804.

Sincerely,



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Paducah Site Lead  
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