LATA Environmental Services
of Kentucky, LLC

761 Veterans Avenue
Kevil, KY 42053

November 12, 2013

Deliverable No: 170

PAD-SO-14-3400

Mr. Reinhard Knerr, Contracting Officer Representative
Portsmouth/Paducah Project Office
U.S. Department of Energy
P.O. Box 1410
Paducah, Kentucky 42002-1410

ICK
NOV12 1:47PM

Dear Mr. Knerr:

DE-AC30-10CC40020: Deliverable No. 170—*Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement Quarterly Progress Report for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, July 1 through September 30, 2013,* PAD-SO-0051/V3

Enclosed is the *Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement Quarterly Progress Report for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, July 1 through September 30, 2013*, PAD-SO-0051/V3 (UE TSCA FFCA). This final report incorporates the U.S. Department of Energy comment received by e-mail October 23, 2013.

This final UE TSCA FFCA Quarterly Progress Report is a shelf document that is required to be available for U.S. Environmental Protection Agency inspection. The information within this report will be included in the 2013 UE TSCA FFCA Annual Compliance Report.

If you have any questions, please contact Ed King at (270) 441-5152

Sincerely,

LATA Environmental Services of Kentucky, LLC

Mark J. Duff
Paducah Project Manager

Enclosure

PAD-SO-14-3400 jlb

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PAD-SO-0051/V3

Uranium Enrichment
Toxic Substances Control Act
Federal Facilities Compliance Agreement
Quarterly Progress Report for the
Paducah Gaseous Diffusion Plant, Paducah, Kentucky
July 1 through September 30, 2013

This document is approved for public release per review by:

Robert Jones DMC PGDP 10-30-13

LATA Kentucky Classification Support Date

PAD-SO-0051/V3

Uranium Enrichment
Toxic Substances Control Act
Federal Facilities Compliance Agreement
Quarterly Progress Report for the
Paducah Gaseous Diffusion Plant, Paducah, Kentucky
July 1 through September 30, 2013

Date Issued—October 2013

Prepared for the
U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

LATA ENVIRONMENTAL SERVICES OF KENTUCKY, LLC
managing the
Environmental Remediation Activities at the
Paducah Gaseous Diffusion Plant
under contract DE-AC30-10CC40020

CONTENTS

TABLES

FIGURE

ACRONYMS

BEJ	best engineering judgment
CFR	*Code of Federal Regulations*
CY	calendar year
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FFCA	Federal Facilities Compliance Agreement
NESHAP	National Emission Standard for Hazardous Air Pollutants
PGDP	Paducah Gaseous Diffusion Plant
RCRA	Resource Conservation and Recovery Act
TSCA	Toxic Substances Control Act
UE	uranium enrichment

1. INTRODUCTION

The Uranium Enrichment (UE) Toxic Substances Control Act (TSCA) Federal Facilities Compliance Agreement (FFCA) signed by U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) on February 20, 1992, and modified in 1997, requires quarterly reports that summarize progress toward completing polychlorinated biphenyl (PCB)-related compliance measures. These measures include troughing, air sampling, process lubrication oil removal, spill cleanup, and disposal. As of March 30, 1994, the troughing interim measure was completed. Ongoing inspections of ventilation duct and troughing systems are performed to identify leaks or spills requiring additional troughing or trough maintenance. The quarterly reports will be maintained at the DOE Site Office and available to EPA, upon request, 45 days following the end of the quarter. The quarterly reports are required to be included in DOE's Annual Compliance Agreement Report. The following summaries satisfy the UE TSCA FFCA quarterly reporting requirements for July 1 through September 30, 2013.

2. INTERIM MEASURES

2.1 AIR SAMPLING

2.1.1 Requirements

Attachment I, Section 1 (D), of the UE TSCA FFCA states the following:

> **Air Sampling –** Consistent with DOE's monitoring at the facilities, PCB air sampling will be continued in process buildings with motor exhaust systems. At least 5 samples will be taken per process building per year. For each of these buildings, samples will be taken quarterly every calendar year, at least 30 days apart, with an additional set of samples taken sometime during the year. For each periodic (annual) air monitoring activity in a building, there are two kinds of sampling sites: best engineering judgment (BEJ) selected sites and randomly selected sites. The same BEJ sites may be selected for more than one monitoring period. The randomly selected sites shall be different from the BEJ sites and shall be newly selected for each periodic monitoring activity according to the attached guidance provided in the appended "Selection of Random Sampling Sites." It would be a rare coincidence for the same randomly selected location in the same building to be sampled in more than one periodic monitoring activity. DOE shall report quarterly to the EPA any PCB concentrations greater than 0.5 micrograms per cubic meter measured from any air-monitoring sampler at any location. Upon receipt of any such measurement data, EPA will contact DOE to address further monitoring requirements and any other required actions. Should EPA conclude that air sampling results produced pursuant to this Agreement so warrant, EPA and DOE shall meet and shall agree upon additional protective measures to be taken by DOE.

2.1.2 Work Completion Date

Work must be complete one year after facility shutdown, and notification will be provided to EPA upon work completion.

2.1.3 Activity for this Quarter

The UE TSCA FFCA requires that PCB air sampling be conducted in process buildings with motor exhaust duct ventilation systems. These buildings include the C-331, C-333, C-335, and C-337 process buildings at the Paducah facility. At least five samples are required to be taken per building per year; at least one of the five samples will be taken at a BEJ selected site, with the remainder of the sites to be selected randomly. For each of the buildings, the samples must be taken quarterly every calendar year (CY), at least 30 days apart. DOE is required to report quarterly to EPA any PCB concentrations greater than 0.5 $\mu g/m^3$ measured from any air-monitoring sampler at any location.

Air samples for the third quarter were collected July 9, 2013. The results of all the samples collected for the third quarter of CY 2013 are shown in Table 1. The quarterly sample sets were obtained more than 30 days apart, as required. The sampling was conducted as described in National Institute for Occupational Safety and Health 5503. The volumes and flow rates, as noted, were necessary to achieve the detection limit required by the UE TSCA FFCA. All samples met the required detection limit and sample results did not exceed the UE TSCA FFCA reporting level of 0.5 $\mu g/m^3$.

Table 1. Third Quarter CY 2013 TSCA FFCA Air Sampling Results

Sample Numbers	Sample Date	Building	Floor	Sample Coordinates	Method of Selection	Results* ($\mu g/m^3$)	Pump Flow Rate (liters/ minute)	Air Volume Sampled (liters)
PCB13-AIR-04-01	07/09/13	C-331	GROUND	78, 84 At DD-29	Random	PCBs not detected above laboratory reporting limits	1.01	507
PCB13-AIR-04-02	07/09/13	C-333	GROUND	69, 19 N of Mb-43	Random	PCBs not detected above laboratory reporting limits	1.03	516
PCB13-AIR-04-03	07/09/13	C-335	GROUND	55, 62 SE of V-22	Random	PCBs not detected above laboratory reporting limits	1.04	522
PCB13-AIR-04-04	07/09/13	C-335	CELL	At U-29	BEJ	PCBs not detected above laboratory reporting limits	1.01	510
PCB13-AIR-04-05	07/09/13	C-337	CELL	105, 115 W of Sb-11	Random	PCBs not detected above laboratory reporting limits	1.02	511

*Limit of detection 0.01 $\mu g/m^3$

3. COMPLIANCE MEASURES

3.1 PROCESS LUBRICATION OIL REMOVAL

Section 3.1 does not apply to Paducah Gaseous Diffusion Plant (PGDP). There are no PCB process lubrication oil systems at PGDP.

3.2 SPILL CLEANUP

3.2.1 Requirements

Attachment I, Section 2 (C), of the UE TSCA FFCA states the following:

> **Spill Cleanup –** PCBs and PCB contaminated oil that may leak onto building floors shall be cleaned up in accordance with the EPA Spill Cleanup Policy. For spills >500 parts per million (ppm) PCBs, this shall consist of cleanup to 10 μg PCB/100 cm^2 with 95% confidence, based on the statistical sampling approach set forth in Attachment III, which shall be used within the spill area to verify cleanup to appropriate levels or, alternatively, to 100 μg PCB/100 cm^2 with 95% confidence, based on the statistical sampling approach set forth in Attachment III, which shall be used within the spill area to verify cleanup to appropriate levels followed by application of an appropriate sealant, such as a 2-layered epoxy type paint. All spill cleanups will be initiated within 24 hours of discovery, excluding historic spills which are defined as PCB stains resulting from spills which have occurred prior to the effective date of this Agreement. Historic spills may be left in place until demolition of the facility, provided public access to the facility is restricted to prevent unauthorized entry. In the event that a new spill should occur on a historic spill site, and the appropriate standard specified above cannot be met after best efforts to meet the standard are made, DOE may request that EPA consider the efforts DOE has made and classify the spill area as a historic spill for purposes of the cleanup under this Agreement.

3.2.2 Work Completion Date

None listed.

3.2.3 Activity for this Quarter

Thirteen gasket spill sites were pending post-cleanup verification at the beginning of this reporting period. Three gasket spills to the building floor were identified during the reporting period. Seven gasket spill sites were closed during this reporting period by verifying sampling data. Nine gasket spill sites were pending post-cleanup verification at the end of this reporting period. PCB spill cleanup progress for CY 2013 is illustrated in Figure 1.

All PCB spills identified were high concentration PCB spills (i.e., from a source of 500 ppm or greater in PCB concentration). Cleanup of each identified spill site was initiated within 24 hours, in accordance with the UE TSCA FFCA. Clearly visible signs have been posted at each spill site advising personnel to avoid the area in order to minimize the spread of contamination and the potential for human exposure. The DOE remediation contractor maintains the cleanup documentation, and the records are available for inspection.

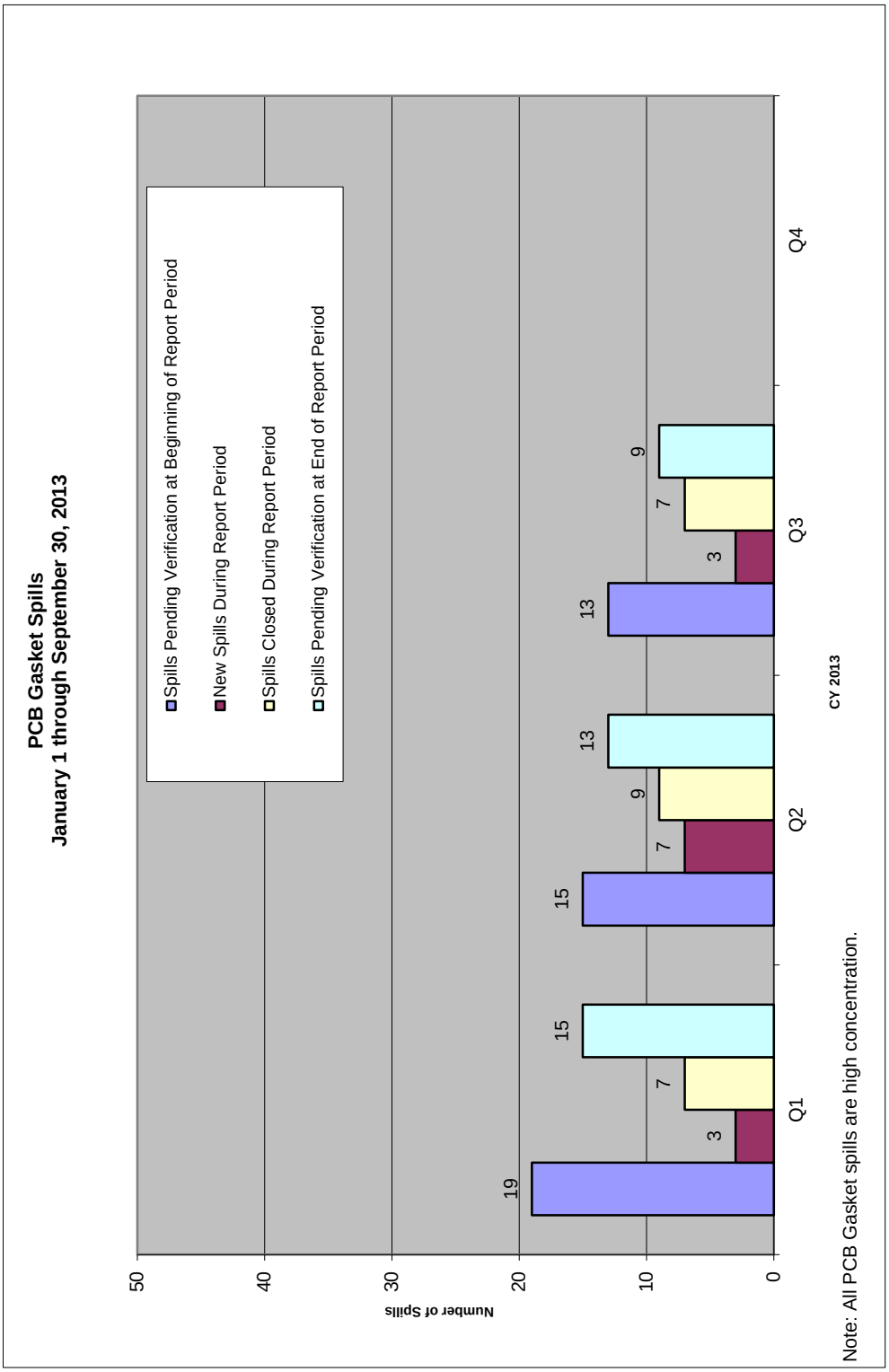

Figure 1. Quarterly Summary of PCB Gasket Spills

3.3 ELECTRICAL CABLES AND ASSOCIATED EQUIPMENT

3.3.1 Requirements

Attachment I, Section 2 (F), of the UE TSCA FFCA states the following:

> **Electrical Cables and Associated Equipment –** PCB contaminated electrical cables and associated equipment shall be removed from the facilities upon decommissioning, unless they require maintenance, servicing or replacement during plant operations, or gasket removal. If maintained or serviced, the cables, cable trays, and associated equipment shall be removed or cleaned up to 10 μg PCB/100 cm^2 or 100 μg PCB/100 cm^2 with 95% confidence followed by application of appropriate sealant.

3.3.2 Work Completion Date

Work must be complete upon demolition.

3.3.3 Activity for this Quarter

No Request for Disposal forms for cables, cable trays, and associated equipment were received, and no maintenance activities were performed during the third quarter of CY 2013.

3.4 DISPOSAL

3.4.1 Requirements

Attachment I, Section 2 (G) of the UE TSCA FFCA states the following:

> **Disposal –** All waste PCBs, PCB Items and ventilation ducts (and associated flanges), electrical cables and associated equipment contaminated with PCBs which were not decontaminated pursuant to Sections 2(C), 2(E), and 2(F) of this Attachment, shall be disposed of in accordance with 40 *CFR* § 761.60. All waste PCBs and PCB Items contaminated with hazardous waste and/or asbestos shall be disposed of in accordance with TSCA, NESHAP [National Emission Standard for Hazardous Air Pollutants] and RCRA [Resource Conservation and Recovery Act] requirements, and/or alternate disposal methods approved by EPA.

3.4.2 Work Completion Date

- Nonradioactive PCBs and PCB Items—within one year after the date the materials were placed into storage for disposal in accordance with Section 2(D) of the attachment of the UE TSCA FFCA.

- Co-contaminated, radioactive PCBs, and PCB items stored for disposal—within 10 years of work initiation date for materials already in storage; 2016, or within 10 years of storage, whichever date is earlier, for materials placed into storage after the effective date of the UE TSCA FFCA.

- Ventilation gaskets, ductwork and flanges, electrical cable, associated equipment, and historic spill material—2016, or within 10 years of work initiation date, whichever date is earlier.

3.4.3 Activity for this Quarter

During the third quarter CY 2013, 1,778,705 kg of PCB waste was shipped for disposal and a notification of receipt was received. Four Certificates of Disposal were received. The PCB waste disposal summary for this reporting period is shown in Table 2. Waste generated as a result of site cleanup and operations is included in this report, including Comprehensive Environmental Response, Compensation, and Liability Act waste, which is provided for information only and is intended to show progress toward removal of PCBs at Paducah.

Table 2. PCB Waste Shipped Off-Site Disposal Activities:
Waste Shipped Off-Site and Certificates of Disposal Received
July 1 through September 30, 2013

PCB Item Count	Description	Weight (kg)	Earliest Date Removed from Service	Date Shipped	Manifest	Shipment No.	Disposal Location	Disposal Method	Disposal Date	CD Rec'd No. of Items Disposed Of
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-047	52308	11/15/2012	7/18/2013	006841625JJK	6228-15-0020	Energy*Solutions*, Clive, Utah	Landfill	8/9/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-048	48970	11/16/2012	7/18/2013	006841626JJK	6228-15-0021	Energy*Solutions*, Clive, Utah	Landfill	8/9/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-049	65517	11/20/2012	7/18/2013	006841627JJK	6228-15-0022	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-050	58404	11/15/2012	7/18/2013	006841628JJK	6228-15-0023	Energy*Solutions*, Clive, Utah	Landfill	8/12/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-051	49795	12/3/2012	7/18/2013	006841629JJK	6628-15-0024	Energy*Solutions*, Clive, Utah	Landfill	8/12/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-052	57833	12/7/2012	7/18/2013	006841630JJK	6228-15-0025	Energy*Solutions*, Clive, Utah	Landfill	8/12/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-053	60064	12/6/2012	7/18/2013	006841631JJK	6228-15-0026	Energy*Solutions*, Clive, Utah	Landfill	8/9/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-054	53496	12/11/2012	7/18/2013	006841632JJK	6228-15-0027	Energy*Solutions*, Clive, Utah	Landfill	8/9/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-055	46520	12/13/2012	7/18/2013	006841633JJK	6228-15-0028	Energy*Solutions*, Clive, Utah	Landfill	8/12/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-056	47736	12/2/2012	7/18/2013	006841634JJK	6228-15-0029	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-057	45967	12/14/2012	7/18/2013	006841635JJK	6228-15-0030	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1

Table 2. PCB Waste Shipped Off-Site Disposal Activities:
Waste Shipped Off-Site and Certificates of Disposal Received
July 1 through September 30, 2013 (Continued)

PCB Item Count	Description	Weight (kg)	Earliest Date Removed from Service	Date Shipped	Manifest	Shipment No.	Disposal Location	Disposal Method	Disposal Date	CD Rec'd No. of Items Disposed Of
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-058	64519	12/19/2012	7/18/2013	006841636JJK	6228-15-0031	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-059	45658	1/4/2013	7/18/2013	006841637JJK	6228-15-0032	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-060	47817	1/7/2013	7/18/2013	006841638JJK	6228-15-0033	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-061	49060	1/9/2013	7/18/2013	006841639JJK	6228-15-0034	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-062	72402	1/11/2013	7/18/2013	006841640JJK	6228-15-0035	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-063	60046	1/11/2013	7/18/2013	006841641JJK	6228-15-0036	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-064	57334	1/14/2013	7/18/2013	006841642JJK	6228-15-0037	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-065	86808	2/13/2013	7/18/2013	006841643JJK	6228-15-0038	Energy*Solutions*, Clive, Utah	Landfill	8/15/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-066	82680	2/14/2013	7/18/2013	006841644JJK	6228-15-0039	Energy*Solutions*, Clive, Utah	Landfill	8/15/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-067	78208	2/20/2013	7/18/2013	006841645JJK	6228-15-0040	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-068	74071	2/19/2013	7/18/2013	006841646JJK	6228-15-0041	Energy*Solutions*, Clive, Utah	Landfill	8/15/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-069	64228	2/26/2013	7/18/2013	006841647JJK	6228-15-0042	Energy*Solutions*, Clive, Utah	Landfill	8/16/2013	8/28/2013 1

Table 2. PCB Waste Shipped Off-Site Disposal Activities:
Waste Shipped Off-Site and Certificates of Disposal Received
July 1 through September 30, 2013 (Continued)

PCB Item Count	Description	Weight (kg)	Earliest Date Removed from Service	Date Shipped	Manifest	Shipment No.	Disposal Location	Disposal Method	Disposal Date	CD Rec'd No. of Items Disposed Of
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-070	71617	2/26/2013	7/18/2013	006841648JJK	6228-15-0043	Energy*Solutions*, Clive, Utah	Landfill	8/15/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-071	70606	3/19/2013	7/18/2013	006841649JJK	6228-15-0044	Energy*Solutions*, Clive, Utah	Landfill	8/16/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-072	74416	3/15/2013	7/18/2013	006841650JJK	6228-15-0045	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-073	81120	3/22/2013	7/18/2013	006841651JJK	6228-15-0046	Energy*Solutions*, Clive, Utah	Landfill	8/13/2013	8/28/2013 1
1	Gondola of PCB Remediation Waste from C-340 Demolition—LATR-074	99744	3/22/2013	7/18/2013	006841652JJK	6228-15-0047	Energy*Solutions*, Clive, Utah	Landfill	8/16/2013	8/28/2013 1
2	(1) ACM/PCB/LLW Heater Box and (1) Intermodal of ACM/LLW/PCB Debris	7720	12/19/2012	7/26/2013	006841659JJK	6228-15-0048	Energy*Solutions*, Clive, Utah			
1	55 gallon drum of PCB Liquid > 500 ppm	307	5/23/2013	8/16/2013	006894418FLE	CH66325	Clean Harbors, Coffeeville, KS			
5	5-gallon drums of RCRA/PCB Liquid > 500 ppm	93	9/20/2012	8/16/2013	006894419FLE	CH668752	Clean Harbors, LaPorte, TX			
3	Containers of PCB Remediation Debris, RFDs 109574-01, 109493-01, 118110-01	3641	11/16/2011	8/19/2013	006841658JJK	PDL13003	NNSS, Mercury, NV	Landfill	8/22/2013	8/28/2013 3
2	Drums Sample Returns	155	12/18/2002	9/28/2012	006841611JJK	9501-02-0010 previously 9501-02-0009	Energy*Solutions*, Clive, Utah	Landfill	12/11/2012	7/31/2013 2
1	Drum of Sample Returns	74	12/18/2002	9/28/2012	006841611JJK	9501-15-0005 previously 9501-02-0009	Energy*Solutions*, Clive, Utah	Landfill	12/11/2012	7/31/2013 1
39	**Total Shipped** (See Note 1)	**1,778,705**								
	Total Disposed Of	**1,770,814**								

Total CDs Received **4**
Total No. of Items Disposed Of **34**

Table 2. PCB Waste Shipped Off-Site Disposal Activities:
Waste Shipped Off-Site and Certificates of Disposal Received
July 1 through September 30, 2013 (Continued)

CD = Certificate of Disposal
LLW = low-level waste
PCB = polychlorinated biphenyl
RCRA = Resource Conservation and Recovery Act
TSCA = Toxic Substances Control Act

All PCB waste listed is PCB/radioactive waste.
Weights and volumes are taken from the Uniform Hazardous Waste Manifests.

Summary of Waste Disposal Activities for CY 2013 Third Quarter

Total Items Shipped for Treatment/Disposal:	**39 Items (32 manifests**) (See Note 1)
Total Volume Shipped for Treatment/Disposal:	**52764.65 ft^3**
Total Weight Shipped for Treatment/Disposal:	**1,778,705 kg** (See Note 1)
Total Items Disposed of per CDs Received:	**34 Items (4 CDs: 1,770,814 kg; 52110.3 ft^3)**

Note 1: Only the weights and items shipped during this reporting period are included in the table summaries.