LATA Environmental Services of Kentucky, LLC

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Kevil, KY 42053

MAY 9 1:55PM

May 9, 2012

Deliverable No: 170

PAD-SO-12-2181

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

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, January 1 through March 31, 2012,* PAD-SO-0044/V1

Enclosed is the *Uranium Enrichment (UE) Toxic Substances Control Act (TSCA) Federal Facilities Compliance Agreement (FFCA) Quarterly Progress Report for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, January 1 through March 31, 2012*, PAD-SO-0044/V1. U.S. Department of Energy comment received by e-mail April 26, 2012, instructing LATA Environmental Services of Kentucky, LLC, to sort Table 2 by the ship date has been incorporated.

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 2012 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

PAD-SO-12-2181 jlb

Enclosure

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PAD-SO-0044/V1

Uranium Enrichment
Toxic Substances Control Act
Federal Facilities Compliance Agreement
Quarterly Progress Report for the
Paducah Gaseous Diffusion Plant, Paducah, Kentucky
January 1 through March 31, 2012

This document is approved for public release per review by:

T. Hudson
LATA Kentucky Classification Support

5-9-2012
Date

PAD-SO-0044/V1

Uranium Enrichment
Toxic Substances Control Act
Federal Facilities Compliance Agreement
Quarterly Progress Report for the
Paducah Gaseous Diffusion Plant, Paducah, Kentucky
January 1 through March 31, 2012

Date Issued—May 2012

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

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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
PCB	polychlorinated biphenyl
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. 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 January 1 through March 31, 2012.

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.

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 first quarter were collected January 10, 2012. The results of all the samples collected for the first quarter of CY 2012 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. First Quarter CY 2012 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)
PCB12-AIR-02-01	01/10/12	C-331	GROUND	74, 91 NE of CC-31	Random	0.03	1.026	526
PCB12-AIR-02-02	01/10/12	C-331	GROUND	at BB-25	BEJ	PCBs not detected above laboratory reporting limits	1.008	515
PCB12-AIR-02-03	01/10/12	C-333	GROUND	35, 137 SW of Gb-3	Random	PCBs not detected above laboratory reporting limits	1.012	517
PCB12-AIR-02-04	01/10/12	C-335	GROUND	3, 96 at C-33	Random	PCBs not detected above laboratory reporting limits	1.013	518
PCB12-AIR-02-05	01/10/12	C-337	CELL	80, 57 S of Nb-30	Random	PCBs not detected above laboratory reporting limits	1.008	513

* Limit of detection 0.02 $\mu g/m^3$

3. COMPLIANCE MEASURES

3.1 PROCESS LUBRICATION OIL REMOVAL

Section 3.1 does not apply to Paducah Gaseous Diffusion Plant.

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 mg 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 mg 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

Twenty-five gasket spill sites were pending post-cleanup verification at the beginning of this reporting period. Four gasket spills to building floors were identified during the reporting period. Six gasket spill sites were closed during this reporting period by verification sampling data. Twenty-three gasket spill sites were pending post-cleanup verification at the end of this reporting period. PCB spill cleanup progress for CY 2012 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.

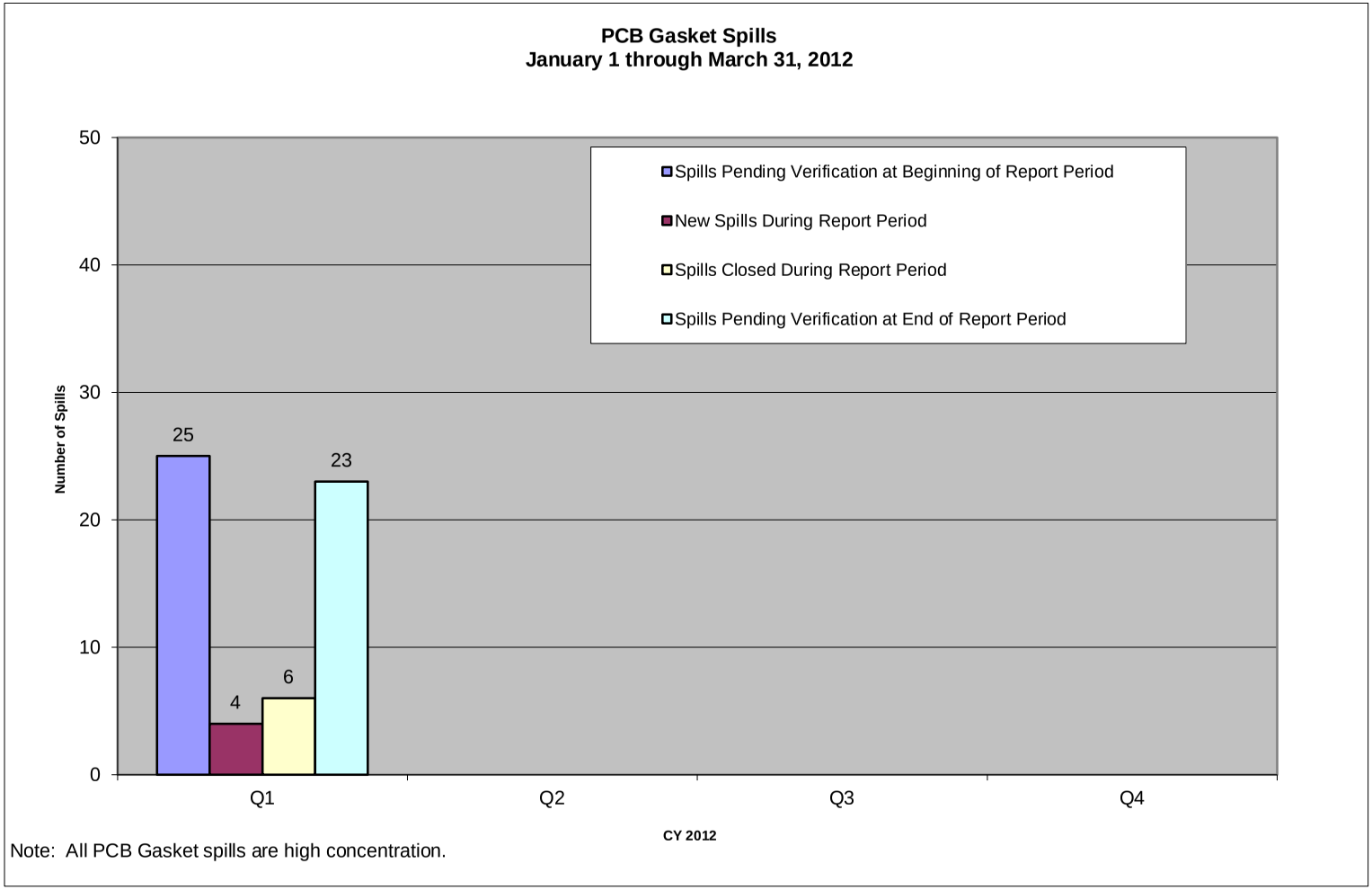

Figure 1. Quarterly Summary of PCB Gasket Spills

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 mg PCB/100 cm^2 or 100 mg 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 Requests for Disposal forms for cables, cable trays, and associated equipment were received, and no maintenance activities were performed during the first quarter of CY 2012.

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 first quarter CY 2012, approximately 22,937 kg of PCB waste was shipped off-site for disposal on three manifests and one Bill of Lading, and twenty-nine 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 are 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
January 1 through March 31, 2012

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
2	PCB Equipment (pumps, hoses, etc., no free liquids)	693	05/29/07	03/06/2009	001754697	6202-15-0111	Energy*Solutions*	Landfill	02/24/2010	01/25/2012
1	PCB contaminated light fixtures	242	1/30/2008	01/22/2010	001754924	6202-14-0017	Energy*Solutions*	Landfill	03/26/2010	01/25/2012
1	PCB empty sample bottles	7	05/14/2007	02/01/2010	001754926	6202-14-0016	Energy*Solutions*	VTD/Landfill	03/26/2010	01/25/2012
1	Empty 55-gal drum (damaged inside of 85 gal)	1	3/15/2009	02/01/2010	001754918	9306-17-0015	Energy*Solutions*	VTD/Landfill	02/10/2011	01/05/2012
7	PCB contaminated debris: empty crushed metal drums, cut up poly overpacks, wood pallets, metal pallets, PPE	29,012	11/12/2009	02/12/2010	001754932	6202-15-0144	Energy*Solutions*	Landfill	03/16/2010	01/25/2012
4	PCB soil—Outfall 010	64,773	11/30/2009	02/19/2010	001754934	6202-17-0001	Energy*Solutions*	Landfill	03/27/2010	01/25/2012
4	PCB soil—Outfall 010	62,822	11/30/2009	02/19/2010	001754935	6202-17-0002	Energy*Solutions*	Landfill	03/27/2010	01/25/2012
4	PCB soil—Outfall 010	60,337	11/30/2009	02/19/2010	001754936	6202-17-0003	Energy*Solutions*	Landfill	03/27/2010	01/25/2012
1	PCB soil—Outfall 010	82,346	01/14/2010	02/19/2010	001754937	6202-17-0004	Energy*Solutions*	Landfill	03/27/2010	01/25/2012
1	PCB soil—Outfall 010	84,394	01/25/2010	02/19/2010	001754938	6202-17-0005	Energy*Solutions*	Landfill	03/27/2010	01/25/2012
2	PCB empty drums	9,280	11/20/2009	03/04/2010	001754945	6202-15-0145	Energy*Solutions*	VTD/Landfill	03/26/2010	01/25/2012
2	PCB soil—Outfall 010	26,317	12/01/2009	03/04/2010	001754944	6202-17-0006	Energy*Solutions*	Landfill	03/27/2010	01/25/2012
1	Drum of PCB/ACM debris	23	07/08/2009	04/23/2010	001754970	6202-15-0146	Energy*Solutions*	Liq-Thermal/ Sol-Landfill	06/28/2010	01/25/2012
1	8 super sacks of PCB soil	68,828	04/08/2010	04/23/2010	001754963	6202-17-0007	Energy*Solutions*	Landfill	05/18/2010	01/25/2012
1	8 super sacks of PCB soil	68,855	04/13/2010	04/23/2010	001754964	6202-17-0008	Energy*Solutions*	Landfill	05/18/2010	01/25/2012
1	8 super sacks of PCB soil	69,277	04/13/2010	04/23/2010	001754965	6202-17-0009	Energy*Solutions*	Landfill	05/18/2010	01/25/2012
1	8 super sacks of PCB soil	66,950	04/14/2010	04/23/2010	001754966	6202-17-0010	Energy*Solutions*	Landfill	05/18/2010	01/25/2012
1	8 super sacks of PCB soil	67,866	04/19/2010	04/23/2010	001754967	6202-17-0011	Energy*Solutions*	Landfill	05/18/2010	01/25/2012
1	8 super sacks of PCB soil	67,299	04/19/2010	04/23/2010	001754968	6202-17-0012	Energy*Solutions*	Landfill	05/18/2010	01/25/2012

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
3	D&D PCB crushed drums	12,519	03/17/2010	06/18/2010	001754971	6202-14-0018	Energy*Solutions*	Landfill	09/03/2010	01/25/2012
1	ER SWOU PCB soils, 118780-03	89,040	06/25/2010	07/09/2010	001754976	6202-17-0013	Energy*Solutions*	Landfill	07/30/2010	01/26/2012
1	ER SWOU PCB soils, 118780-04	85,497	04/20/2010	07/09/2010	001754977	6202-17-0014	Energy*Solutions*	Landfill	07/30/2010	01/26/2012
6	PCB metal and spill debris	1,750	10/01/2007	07/24/2010	001754979	6202-15-0147	Energy*Solutions*	VTD/Landfill	10/05/2010	01/25/2012
35	PCB debris and spill cleanup, empty sample bottles	659	01/04/2000	07/24/2010	001754983	6202-15-0148	Energy*Solutions*	VTD/Landfill	09/29/2010	01/25/2012
15	PCB non-leaking capacitors, light ballasts	1,968	06/27/2005	07/24/2010	001754974	9306-17-0016	Energy*Solutions*	VTD	12/16/2011	01/05/2012
1	ER SWOU Soils, 118780-05	35,784	01/27/2010	07/25/2010	001754990	6202-17-0015	Energy*Solutions*	Landfill	08/23/2010	01/25/2012
2	PCB light ballasts and capacitors, RFD 119054-01, 119168-01	66	06/23/2010	03/28/2011	006841520	9501-17-0001	Energy*Solutions*	Landfill	07/22/2011	02/08/2012
2	PCB/RCRA solids: lab wastes, PPE	66	07/19/2001	04/29/2011	006841525	9501-02-0003	Energy*Solutions*	Macro; Landfill	06/17/2011	02/08/2012
1	PCB/RCRA waste, remediation debris: vacuum pumps with oil residue and grease	7,089	07/13/10	07/22/2011	006841553 JJK	9501-02-0006U	Energy*Solutions*	Landfill	09/22/2011	02/08/2012
24	17 Drums and 7 boxes of PCB capacitors for decontamination and disposal	13356	10/13/2009	02/07/2012	See Note 1	TOX1004	Toxco	Research and Development for PCB Disposal		
7	PCB ventilation duct oil/water collection drums, hydraulic fluid from degreaser unit in C-340, lab liquids, PCB solvent oil ¼ full of dark yellow oil, PCB solvent oil, ¾ full of dark yellow oil, MECI extraction fluid full clear brown organic liquid	406	03/12/2003	02/15/2012	006841597JJK	DSSI-12-016	DSSI/Perma-Fix	Alternate Thermal Treatment		
2	RCRA hazardous PCB solid lab waste, sodium sulfate, sodium sulfate and lab solids contaminated with methylene chloride from sample extractions	17	05/29/2003	02/15/2012	006841599JJK	DSSI-12-015	DSSI/Perma-Fix	Alternate Thermal Treatment		
7	6 ST-90s and 1 Sealand of PCB contaminated debris	9158	05/28/2008	03/23/2012	00684602JJK	6228-15-0016	Energy*Solutions*	Landfill		

CD = Certificate of Disposal
DSSI/Perma-Fix = Diversified Scientific Services, Inc./Perma-Fix
NST = National Security Technologies, LLC (for U.S. Department of Energy, Nevada National Security Site)
PCB = polychlorinated biphenyl
PPE = personal protective equipment

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 2012 First Quarter

Total Items Shipped for Treatment/Disposal:	**40 Items (3 manifests and 1 Bill of Lading)**
Total Volume Shipped for Treatment/Disposal:	**1,910 ft^3**
Total Weight Shipped for Treatment/Disposal:	**22,937 kg**
Total Items Disposed of:	**104 Items (29 CDs: 1,063,760 kg; 84,700 ft^3)**

Notes:
[1] These PCB Capacitors were radiologically contaminated and shipped as Radioactive Material (Surface Contaminated Objects) to TOXCO. If decontamination of the radiological contaminants is successful, the project plans to ship these capacitors as TSCA PCB Waste to Clean Harbors on an EPA Manifest.