

### **Department of Energy**

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June 27, 2022

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By Terri.Drake at 12:17 pm, Jun 28, 2022

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Ms. Kathleen Doster, ESQ Federal Facility Enforcement Office U.S. Environmental Protection Agency Headquarters 1200 Pennsylvania Avenue NW Mail Code 2261A Washington, DC 20460

Ms. Terri Crosby-Vega Regional PCB Program Coordinator/Team Lead Resource Conservation and Restoration Division U.S. Environmental Protection Agency, Region 4 Atlanta Federal Center 9T25 61 Forsyth Street SW Atlanta, GA 30303-8960

Dear Ms. Leff, Ms. Doster, and Ms. Crosby-Vega:

TRANSMITTAL OF THE URANIUM ENRICHMENT TOXIC SUBSTANCES CONTROL ACT COMPLIANCE AGREEMENT 2021 ANNUAL COMPLIANCE AGREEMENT REPORT JANUARY 1 THROUGH DECEMBER 31, 2021, FOR THE PADUCAH GASEOUS DIFFUSION PLANT, PADUCAH, KENTUCKY, FRNP-RPT-0252

Please find enclosed the subject report for the U.S. Department of Energy Paducah Site. This annual report is required under the Toxic Substances Control Act (TSCA) Compliance Agreement (CA), as modified on May 30, 2017. This report documents progress on TSCA CA activities at Paducah, Kentucky, for the period from January 1, 2021, through December 31, 2021.

PPPO-02-10021626-22

If you have any questions or require additional information, please contact Tracey Duncan at (270) 441-6682.

Sincerely,

Digitally signed by April April Ladd Date: 2022.06.27 17:24:48 -05'00'

April Ladd Acting Paducah Site Lead Portsmouth/Paducah Project Office

### Enclosure:

Uranium Enrichment Toxic Substances Control Act Compliance Agreement 2021 Annual Compliance Agreement Report January 1 through December 31, 2021, for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, FRNP-RPT-0252

### cc w/enclosure:

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# Uranium Enrichment Toxic Substances Control Act Compliance Agreement 2021 Annual Compliance Agreement Report January 1 through December 31, 2021, for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky



This document is approved for public release per review by:

David Hayden
FRNP Classification Support

06-16-2022

Date

## Uranium Enrichment Toxic Substances Control Act Compliance Agreement 2021 Annual Compliance Agreement Report, January 1 through December 31, 2021, for the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

Date Issued—June 2022

U.S. DEPARTMENT OF ENERGY Office of Environmental Management

Prepared by
FOUR RIVERS NUCLEAR PARTNERSHIP, LLC,
Managing the
Deactivation and Remediation Project at the
Paducah Gaseous Diffusion Plant
under Contract No. DE-EM0004895



### **PREFACE**

The U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency entered into the Toxic Substances Control Act (TSCA) Compliance Agreement (CA) to address TSCA compliance at the Paducah, Portsmouth, and Oak Ridge uranium enrichment (UE) facilities. This agreement, signed on February 20, 1992, was intended to bring DOE's UE facilities into full compliance with the TSCA regulations for the management of polychlorinated biphenyls (PCBs). This agreement was modified on September 25, 1997, and modified again on May 30, 2017. At the Paducah facility, the TSCA CA addresses the following:

- Troughing of ventilation duct gaskets;
- Investigation of historic PCB disposal sites;
- Use and removal of leaking potential PCB devices;
- Sampling of air;
- Process lubrication oil;
- Process lubrication oil removal:
- Spill cleanup;
- Storage of PCB waste;
- Building demolition wastes;
- PCB-contaminated slabs;
- Processing of PCB-contaminated demolition material;
- Nonradioactive PCBs and PCB items storage and disposal;
- Co-contaminated, radioactive PCBs and PCB items storage and disposal;
- Ensurance of worker safety measures; and
- Hydraulic systems at the Paducah Gaseous Diffusion Plant.

This Annual CA Report summarizes TSCA CA activities that occurred at the Paducah facility from January 1, 2021, through December 31, 2021.



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### **ACRONYMS**

compliance agreement CA certificate of disposal CD

Code of Federal Regulations calendar year CFR

CY

DOE

U.S. Department of Energy
U.S. Environmental Protection Agency EPA

FY fiscal year

memorandum of agreement MOA on-site waste disposal facility **OSWDF** Toxic Substances Control Act TSCA

UE uranium enrichment



### **EXECUTIVE SUMMARY**

This Annual Compliance Agreement (CA) Report summarizes the Toxic Substances Control Act (TSCA) CA activities that occurred at the Paducah facility from January 1 through December 31, 2021.

During calendar year 2021, the Paducah facility continued to address the ongoing elements identified in the TSCA CA, as required by the modified agreement.

The TSCA CA requires the Paducah facility to conduct the interim measure of performing annual air sampling, as required by Attachment 1, Section 1 (D), Air Sampling.

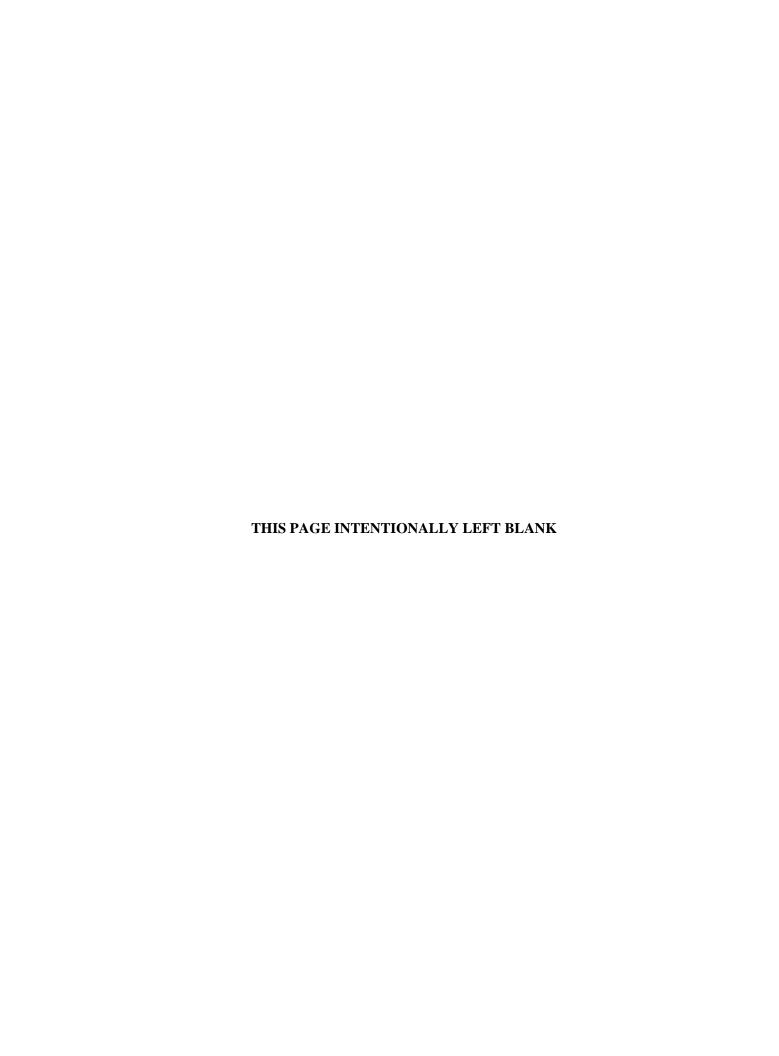
The TSCA CA modification, signed on May 30, 2017, requires annual polychlorinated biphenyl (PCB) air sampling. The annual air sampling event took place during August, in accordance with the TSCA CA Attachment I, Section 1, Interim Measures, (D) Air Sampling. One sampling point result for the annual event did exceed the TSCA CA reporting level of  $0.5~\mu g/m^3$ .

The TSCA CA also includes the following open compliance measures.

- Section 2 (C)—Spill Cleanup
- Section 2 (D)—Storage for Disposal
- Section 2 (E-1)—Building Demolition Wastes
- Section 2 (E-2)—PCB-contaminated Slabs
- Section 2 (E-3)—Processing for the On-Site Waste Disposal Facility
- Section 2 (F)—Other Wastes
  - Nonradioactive PCBs and PCB items
  - Co-contaminated and Radioactive PCBs and PCB items

Four PCB gasket spills were cleaned and closed in accordance with the standards set forth in the TSCA CA Attachment I, Section 2, Compliance Measures, (C) Spill Cleanup. No non-gasket spills were closed as historic spills, in accordance with measures proposed and accepted at previous TSCA Federal Facility Compliance Act Annual Meetings; however, one low-concentration non-gasket PCB spill, one PCB detectable non-gasket spill, and one non-gasket spill were closed as clean.

The Paducah facility made zero shipments of TSCA-regulated PCB/nonradioactive waste. The Paducah facility shipped for disposal a net weight of approximately 38,756 kg of TSCA-regulated PCB/radioactive waste on 21 Uniform Hazardous Waste Manifests. Twenty Certificates of Disposal were received in 2021.



### INTEGRATED SCHEDULE SUMMARY

In accordance with paragraph 36 of the Toxic Substances Control Act (TSCA) Compliance Agreement (CA), an annual update on the status of each item on the Integrated Schedule is provided. The Integrated Schedule for fiscal year (FY) 2021, submitted in May 2020, included four ongoing activities, and six activities are scheduled to begin work in the future.

Section 1 (D), Air Sampling, is an ongoing effort and work scheduled for calendar year (CY) 2021 was completed (see Section 1.1).

Section 2 (C), Spill Cleanups, is an ongoing effort and work scheduled for CY 2021 was completed (see Section 2.1).

Section 2 (E-1), Building Demolition Waste, is an ongoing effort, however, there were no scheduled activities related to this item during CY 2021.

Section 2 (E-2), polychlorinated biphenyl (PCB)-contaminated slab management/demolition, is an ongoing effort at the Paducah Site. Currently, there are two PCB-contaminated slabs managed on-site; scheduled activities regarding these slabs were completed for CY 2021 (see Section 2.2.2).

The following six activities also are included in the Integrated Schedule.

- (1) No decision has been made for the Paducah facility regarding the on-site waste disposal facility (OSWDF); therefore, there were no scheduled activities related to the design phase of the potential OSWDF. Currently, work associated with this item is scheduled beyond FY 2024.
- (2) No decision has been made for the Paducah facility regarding the OSWDF; therefore, there were no scheduled activities related to the construction phase for the first cell of the potential OSWDF during CY 2021. Currently, work associated with this item is scheduled beyond FY 2024.
- (3) The waste staging and processing/resizing operations have not been determined to be necessary for the Paducah facility; therefore, there were no scheduled activities related to the design phase during the CY 2021. Currently, work associated with this item is scheduled beyond FY 2024.
- (4) The waste staging and processing/resizing operations have not been determined to be necessary for the Paducah facility; therefore, there were no scheduled activities related to the construction phase during the CY 2021. Currently, work associated with this item is scheduled beyond FY 2024.
- (5) None of the buildings listed in paragraph 11 of the TSCA CA had any demolition activities associated with them during CY 2021. The C-400 Complex demolition that was slated to start in November 2018 was delayed due to regulatory disputes under the Federal Facility Agreement. A Memorandum of Agreement (MOA) was issued in August 2019 concerning the C-400 Complex demolition regulatory disputes. The MOA allowed the C-400 Complex Remedial Investigation/Feasibility Study project to begin; however, the current schedule for initiating demolition activities extends beyond FY 2024. Currently, work associated with other buildings related to this item is scheduled beyond FY 2024.
- (6) During CY 2021, no PCB-contaminated slab demolition was scheduled. Currently, work associated with this item is scheduled beyond FY 2024.



### 1. INTERIM MEASURES

### AIR SAMPLING

Both the original Uranium Enrichment Toxic Substances Control Act (TSCA) Compliance Agreement (CA) and the TSCA CA modification signed on May 30, 2017, require polychlorinated biphenyl (PCB) air sampling to 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.

The TSCA CA modification signed on May 30, 2017, requires two samples per process building to be taken once annually anytime during the months of June, July, and August. For each annual air monitoring activity in a building, there will be a best engineering judgment-selected site and a randomly selected site. The results for the 2021 PCB air sampling event are shown in Table 1.

The U.S. Department of Energy (DOE) is required to report to the U.S. Environmental Protection Agency (EPA) any PCB concentrations greater than 0.5  $\mu$ g/m³ measured from any air-monitoring sampler at any location. For calendar year (CY) 2021, one sampling point result for the annual event did exceed the TSCA CA reporting level of 0.5  $\mu$ g/m³. With the results being presented in Table 1, this document satisfies the requirement to report air-monitoring results greater than 0.5  $\mu$ g/m³.

The sampling was conducted as described in the 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 TSCA CA.

### 2. COMPLIANCE MEASURES

### 2.1 SPILL CLEANUP

The TSCA CA requires that PCB spills and PCB-contaminated oil that may leak onto building floors be cleaned in accordance with the EPA PCB Spill Cleanup Policy in 40 *CFR* Part 761, Subpart G. Reports documenting PCB spills and PCB spill cleanup measures are required to be prepared each quarter and are summarized in this Annual CA Report. Record copies of cleanup documentation are kept on-site and are available for inspection.

The TSCA CA allows historic spills, those that occurred before March 19, 1992, to be left in place until demolition of the facility. PCB high-concentration gasket spills (i.e., from a source of 500 ppm or greater in PCB concentration) that occurred on building floors after March 19, 1992, shall be verified closed, in accordance with the requirements of the TSCA CA.

The following is a summary of PCB gasket spill activities for CY 2021:

- Remaining PCB gasket spill sites awaiting verification of successful cleaning as of December 31, 2020—6
- Number of new PCB gasket spill sites identified during reporting period—4
- Number of PCB gasket spill sites closed during reporting period—4

Table 1. PCB Air Results Annual CY 2021

Calendar Year	Sample Numbers	Sample Date	Building	Floor	Sample Location	Method of Selection	Results* (µg/m³)	Qualifier	Pump Flow Rate (liters/minute)	Air Volume Sampled (liters)
2021	PCB21-AIR-01-01	8/18/2021	C-331	GROUND	NE of F-21	RANDOM	0.530		1	492
2021	PCB21-AIR-01-02	8/18/2021	C-331	GROUND	E of V-21	BEJ	0.090		1.01	496
2021	PCB21-AIR-01-03	8/18/2021	C-333	GROUND	NE of Lb-32	RANDOM	0.082		1.01	497
2021	PCB21-AIR-01-04	8/18/2021	C-333	GROUND	At N-26	BEJ	0.300		1.02	502
2021	PCB21-AIR-01-05	8/18/2021	C-335	GROUND	SW of E-6	RANDOM	0.094		1.01	491
2021	PCB21-AIR-01-06	8/18/2021	C-335	CELL	At R-15	BEJ	0.066		1.01	512
2021	PCB21-AIR-01-07	8/18/2021	C-337	GROUND	W of X-7	RANDOM	0.033	·	1.03	515
2021	PCB21-AIR-01-08	8/18/2021	C-337	CELL	NE of Ma-27	BEJ	0.063		1.02	522

<sup>\*</sup>The action level for reporting to the EPA is  $0.5 \mu g/m^3$ .

- Remaining PCB gasket spill sites awaiting verification of successful cleaning as of December 31, 2021—6
- Number of PCB gasket spill sites closed as a historic spill—0

A quarterly breakdown of PCB gasket spill information can be found in Figure 1.

The following is a summary of PCB non-gasket spill activities for CY 2021:

- Remaining PCB non-gasket spill sites awaiting verification of successful cleaning as of December 31, 2020—11
- Number of new PCB non-gasket spill sites identified during reporting period—2
- Number of PCB non-gasket spill sites closed during reporting period—3
- Remaining PCB non-gasket spill sites awaiting verification of successful cleaning as of December 31, 2021—10
- Number of PCB non-gasket spill sites closed as a historic spill—0

A quarterly breakdown of PCB non-gasket spill information can be found in Figure 2.

All PCB gasket and non-gasket 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 TSCA CA. 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 cleanup documentation and records are available for inspection.

### 2.2 BUILDING DEMOLITION

### 2.2.1 Building Demolition Wastes

The TSCA CA requires building demolition waste comprised of PCBs or PCB items (as defined in 40 *CFR* § 761.3) to be managed and disposed of as directed in 40 *CFR* § 761.50. In particular, building demolition waste comprised of PCB-contaminated ventilation ducts, gaskets, flanges, piping, or other materials containing PCBs as a result of a spill, release, or other unauthorized disposal shall be managed and disposed of as PCB remediation waste in accordance with 40 *CFR* § 761.61. During the CY 2021, no building demolition waste containing PCB waste, PCB items, or PCB remediation waste were generated.

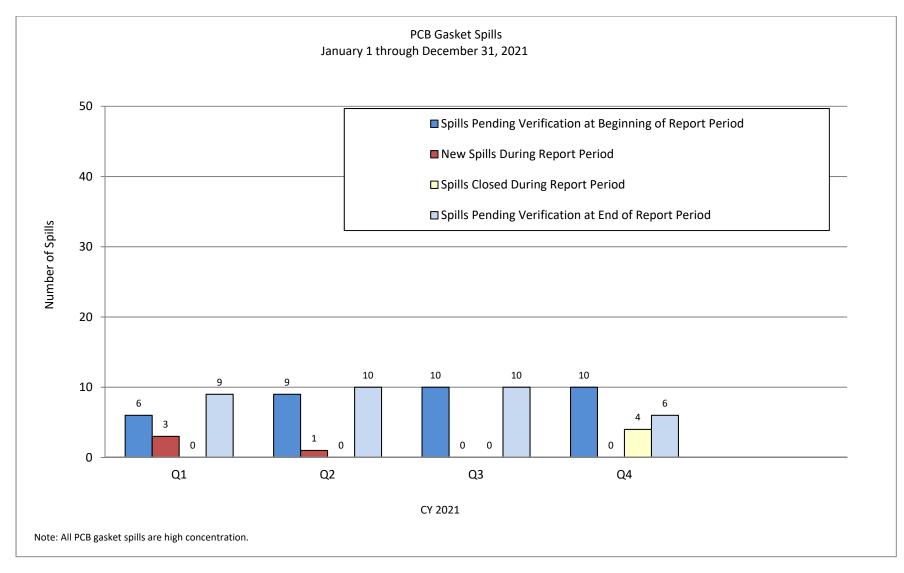


Figure 1. Quarterly Summary of PCB Gasket Spills

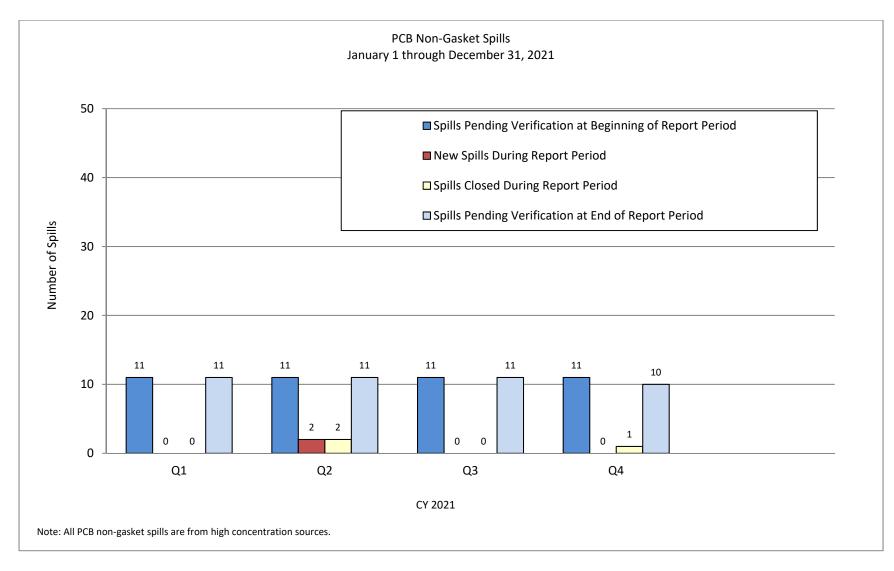


Figure 2. Quarterly Summary of PCB Non-Gasket Spills

### 2.2.2 PCB-Contaminated Slabs

The TSCA CA requires that PCB-contaminated slabs from buildings listed in paragraph 11 of the agreement shall be maintained according to the requirements of 40 CFR § 761.30, except that historical spills, as defined in Section 2 (C), shall be maintained in accordance with Section 2 (C). The previous demolition of the buildings associated with the C-340-A Powder Building, C-340-B Metals Building, C-340-C Slag Building, C-410 Feed Plant, C-410-A Hydrogen Holder (slab only), C-410-C HF Neutralization Building, C-410-F HF Storage Building (north), C-410-G HF Storage Building (center), C-410-H HF Storage (south), C-410-I Ash Receiver Shelter, C-410-J HF Storage Building (east), C-411 Cell Maintenance Building, and C-420 Green Salt Building did result in PCB-contaminated slabs. The slabs were double washed and rinsed, and two contrasting colors of epoxy fixative were applied. The documentation of these actions can be found in the documents DOE/LX/07-1286&D1, Removal Action Report for the C-340 Metals Reduction Plant at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, for C-340 and DOE/LX/07-2182&D1, Removal Action Report for the C-410 Complex Infrastructure Decontamination and Decommissioning Project at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, for the C-410 complex. During CY 2020 routine inspections/radiological surveys of the C-340 and C-410 slabs, loose fixative was discovered. Maintenance activities continued into CY 2021 to remove the loose fixative and reseal the slabs. The areas were resealed with two contrasting colors of epoxy fixative. The loose fixative material was containerized as radioactively-contaminated PCB waste following removal. No discharges or releases of PCB-contaminated material were detected or reported for the associated slabs for CY 2021.

### 2.2.3 Processing of PCB-Contaminated Demolition Material for On-Site Waste Disposal

The TSCA CA requires the processing of any PCB-contaminated demolition material before disposal in the on-site waste disposal facility (OSWDF) must be in compliance with 40 *CFR* § 761.20(c). The requirements of this section are not applicable at this time because the OSWDF has not been constructed.

### 2.3 OTHER WASTES

### 2.3.1 Nonradioactive PCBs and PCB Items

The TSCA CA requires an annual progress update on the storage and disposal of nonradioactive PCBs and PCB items. At the Paducah facility, PCB waste generated on-site is assumed to contain a radioactive component. After radiological characterization for disposal, Paducah nonradiological PCB waste is stored in accordance with the requirements of the TSCA CA, Attachment I, Section 2(D), Storage; 40 *CFR* § 761.65, *Storage for Disposal*; and associated concurrences. There were no nonradioactive PCBs or PCB items in the inventory, as of December 31, 2021. Nonradioactively contaminated PCBs and PCB items are shipped for disposal to commercial facilities. During CY 2021, no non-radioactive PCBs or PCB items were shipped off-site for disposal.

### 2.3.2 Co-contaminated, Radioactive PCBs and PCB Items

The TSCA CA requires an annual progress update on the storage and disposal of co-contaminated, radioactive PCB and PCB items. At the Paducah facility, all PCB waste generated on-site is assumed to contain a radioactive component. Pending radiological characterization for disposal, Paducah radiological PCB waste is stored in accordance with the requirements of the TSCA CA, Attachment I, Section 2(D), Storage; 40 *CFR* § 761.65, *Storage for Disposal*; and associated concurrences. The inventory, as of December 31, 2021, of radiologically contaminated PCBs and PCB items is reflected in Table 2. Radioactive PCBs and PCB items stored in TSCA-compliant storage areas may be stored for more than one year prior to disposal, pursuant to 40 *CFR* § 761.65(a)(1). Two radioactive PCB waste items did exceed

Table 2. PCB Waste Inventory as of December 31, 2021

Waste ID	Description	Earliest Date Removed from Service	Physical	Gross Wt (lb)	Gross Wt (kg)	Net Wt (lb)	Net Wt (kg)	Gross Vol (ft3)	Current Facility	Source	Waste Cat
106744-01	DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	11/7/2005	Solid (S)	21,966	9,964	21,966	9,964	2,304	C-337	C-337	TSCA Mixed (TM)
106744-04	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGEd AT C-337 U2C3 "B" LOCATION.	11/7/2005	S	1,340	608	1,286	583	352	C-337	C-337	TM
106744-05	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	11/7/2005	S	1,322	600	1,268	575	352	C-337	C-337	TM
107839-01	DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	6/27/2004	S	33,840	15,350	33,840	15,350	462	C-337	C-337	TM
107839-02	FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	6/27/2004	S	678	308	643	292	352	C-337	C-337	TM
121255-04	LUBE OIL/PCB RINSEATE	9/6/2021	Liquid (L)	518	235	462	210	7	C-752-A	C-337	RCRA/TSCA MIXED (RTM)
121255-05 <sup>a</sup>	LUBE OIL/PCB RINSEATE	10/13/2021	L	463	210	407	185	7	C-337	C-337	RTM
122193-08 <sup>a</sup>	EPOXY PAINT CHIPS, VEGETATION AND PPE	8/23/2021	S	1,325	601	289	131	93	C-333	C-333	TM
122235-04	EPOXY PAINT CHIPS, VEGETATION, PPE, BERYLLIUM	8/26/2021	S	1,519	689	483	219	90	C-752-A	C-746-B	TM
122252-08 <sup>a</sup>	VENTILATION DUCT OIL AND WATER	10/13/2021	L	509	231	453	205	7	C-337	C-337	TM
122253-04	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	8/2/2021	S	130	59	74	34	7	C-752-A	Proc Bldgs	TM
122253-05	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	10/19/2021	S	101	46	45	20	7	C-752-A	Proc Bldgs	TM
122253-06 <sup>a</sup>	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	10/13/2021	S	137	62	81	37	7	C-337	Proc Bldgs	TM
122253-07 <sup>a</sup>	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	11/16/2021	S	157	71	101	46	7	C-337	Proc Bldgs	TM
122396-01 <sup>a</sup>	PCB LIGHT BALLASTS/TRANSFORMERS/CAPACITORS/ETC	5/20/2021	S	79	36	49	22	4	C-757	Various	TM
122430-01 <sup>a</sup>	CAPACITORS THAT CONTAIN PCB OIL	9/1/2021	S	186	84	130	59	7	C-752-A	C-710	TM
122430-02	CAPACITORS THAT CONTAIN PCB OIL	9/1/2021	S	135	61	79	36	7	C-752-A	C-710	TM
122431-02 <sup>a</sup>	C-333 UNIT 5 CELLS 1-10, UNIT 6 CELLS 1-10 AND PCB/ASBESTOS WASTE - THIS MATERIAL WAS REPACKED INTO THIS CONTAINER (122431-02)	6/1/2021	S	10,245	4,647	2,745	1,245	686	C-333	C-333	TM
122473-01 <sup>a</sup>	MISC PART AND FROM TWO PCB TRANSFORMER IN C-337	6/27/2004	S	992	450	200	91	90	C-337	C-337	TM
122494-01	FLUORESCENT LIGHT FIXTURES, LIGHT BALLASTS AND WIRING, CONTAINER PCB (50-499 PPM) AND ASBESTOS CONTAINING MATERIAL (ACM)	8/19/2021	S	1,410	640	374	170	90	C-752-A	C-725	TM
20	Total Containers		Totals <sup>b</sup>	77,052	34,949	64,975	29,472	4,942			

<sup>&</sup>lt;sup>a</sup> Indicates a collection container still in use. Weight is estimated.

1 totals may vary due to rounding.

the one-year storage limitation. A summation of the records documenting the efforts to secure disposal of these items can be found in the Appendix.

Radioactively contaminated PCBs and PCB items are shipped for disposal to DOE-owned facilities, Nuclear Regulatory Commission-licensed facilities, or facilities that have received authorized limits approval from DOE and the facility's host state. During CY 2021, 49 co-contaminated, radioactive PCBs or PCB items with a net weight of approximately 38,756 kg were shipped off-site for disposal on 21 hazardous waste manifests.

During CY 2021, no Certificates of Disposal (CDs) were received for nonradioactive PCBs or PCB waste items. Also, during CY 2021, 20 CDs were received for PCB/radioactive waste that had been disposed of, representing a total net weight of 60,323 kg of radiologically contaminated PCBs and PCB items. The PCB waste off-site shipping and disposal information for this reporting period is shown in Table 3. 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 the removal of PCBs at the Paducah facility.

Table 3. PCB Waste Activities: Waste Shipped Off-Site and/or Disposed of January 1, 2021 through December 31, 2021

Waste ID	Description	Gross Wt (lb)	Gross Wt (kg)	Net Wt (lb)	Net Wt (kg)	Earliest Date Removed from Service	Date Shipped	Manifest	Shipment No	Disposal Location	Disposal Method	Disposal Date	CoD Rec'd
121998-03	SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE FROM VENT DUCT TROUGHS/PCB SPILL SITE ENCAPSULATION ACTIVITIES	126	57	70	32	3/16/2020	1/28/2021	019695049JJK	7340-08-0011	EnergySolutions, Clive, UT	Landfill	3/1/2021	3/8/2021
121999-02	PCB VENTILATION DUCT LIQUIDS FROM VENTILATION TROUGHS IN PROCESS BUILDINGS	484	220	428	194	7/2/2020	1/28/2021	019695050JJK	9750-04-0007	EnergySolutions, Clive, UT	Landfill	10/7/2021	10/13/2021
122023-69	PCB CONTAMINATED DEBRIS AND CHROMIUM CONTAMINATED BRICK	28,420	12,891	20,920	9,489	11/4/2020	2/23/2021	019695054JJK	9750-01-0082	EnergySolutions, Clive, UT	Landfill	3/18/2021	3/24/2021
122023-70	PCB CONTAMINATED DEBRIS AND CHROMIUM CONTAMINATED BRICK	19,740	8,954	12,240	5,552	11/4/2020	2/23/2021	019695055JJK	9750-01-0083	EnergySolutions, Clive, UT	Landfill	3/18/2021	3/24/2021
122023-71	PCB CONTAMINATED DEBRIS AND CHROMIUM CONTAMINATED BRICK	13,040	5,915	5,150	2,336	11/4/2020	3/2/2021	019695059JJK	9750-01-0084	EnergySolutions, Clive, UT	Landfill	3/18/2021	3/24/2021
122179-01	EPOXY PAINT CHIPS, VEGETATION & PPE AT BOTH C-340 AND C-410	2,102	953	1,298	589	10/16/2020	3/4/2021	019695071JJK	7340-08-0012	EnergySolutions, Clive, UT	Landfill	5/13/2021	5/18/2021
122193-01	EPOXY PAINT CHIPS, VEGETATION AND PPE	1,944	882	1,140	517	11/6/2020	3/4/2021	019695071JJK	7340-08-0012	EnergySolutions, Clive, UT	Landfill	5/13/2021	5/18/2021
122193-02	EPOXY PAINT CHIPS, VEGETATION AND PPE	3,062	1,389	2,258	1,024	11/13/2020	3/4/2021	019695071JJK	7340-08-0012	EnergySolutions, Clive, UT	Landfill	5/13/2021	5/18/2021
122193-03	EPOXY PAINT CHIPS, VEGETATION AND PPE	1,686	765	882	400	11/20/2020	3/4/2021	019695071JJK	7340-08-0012	EnergySolutions, Clive, UT	Landfill	5/13/2021	5/18/2021
122235-01	EPOXY PAINT CHIPS, VEGETATION, PPE, BERYLLIUM	1,572	713	767	348	1/22/2021	3/4/2021	019695071JJK	7340-08-0012	EnergySolutions, Clive, UT	Landfill	5/13/2021	5/18/2021
122143-01	POSSIBLE PCB CONTAMINATED FILTER MEDIA	902	409	97	44	8/17/2020	3/29/2021	019695091JJK	7340-08-0013	EnergySolutions, Clive, UT	Landfill	5/13/2021	5/18/2021
121999-03	PCB VENTILATION DUCT LIQUIDS FROM VENTILATION TROUGHS IN PROCESS BUILDINGS	488	221	432	196	8/11/2020	3/29/2021	019695093JJK	9750-04-0008	EnergySolutions, Clive, UT	Landfill	6/21/2021	7/2/2021
121999-04	PCB VENTILATION DUCT LIQUIDS FROM VENTILATION TROUGHS IN PROCESS BUILDINGS	500	227	444	201	9/29/2020	5/25/2021	019695128JJK	9750-04-0009	EnergySolutions, Clive, UT			
121999-05	PCB VENTILATION DUCT LIQUIDS FROM VENTILATION TROUGHS IN PROCESS BUILDINGS	506	230	450	204	10/29/2020	5/25/2021	019695128JJK	9750-04-0009	EnergySolutions, Clive, UT			
122252-01	VENTILATION DUCT OIL AND WATER	351	159	295	134	1/25/2021	5/25/2021	019695128JJK	9750-04-0009	EnergySolutions, Clive, UT			
122193-04	EPOXY PAINT CHIPS, VEGETATION AND PPE	3,079	1,397	1,848	838	1/12/2021	6/18/2021	019695154JJK	7340-08-0015	EnergySolutions, Clive, UT	Landfill	6/25/2021	7/2/2021
122193-05	EPOXY PAINT CHIPS, VEGETATION AND PPE	1,783	809	552	250	4/12/2021	6/18/2021	019695154JJK	7340-08-0015	EnergySolutions, Clive, UT	Landfill	6/25/2021	7/2/2021
122193-06	EPOXY PAINT CHIPS, VEGETATION AND PPE	2,418	1,097	1,626	738	4/27/2021	6/18/2021	019695154JJK	7340-08-0015	EnergySolutions, Clive, UT	Landfill	6/25/2021	7/2/2021
122235-02	EPOXY PAINT CHIPS, VEGETATION, PPE, BERYLLIUM	1,598	725	794	360	1/23/2021	6/18/2021	019695154JJK	7340-08-0015	EnergySolutions, Clive, UT	Landfill	6/25/2021	7/2/2021
122306-01	EXCAVATED SOIL	9,336	4,235	8,094	3,671	3/4/2021	6/21/2021	019695148JJK	9750-03-0005	EnergySolutions, Clive, UT	Landfill	11/22/2021	12/1/2021
121998-04	SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE FROM VENT DUCT TROUGHS/PCB SPILL SITE ENCAPSULATION ACTIVITIES	168	76	112	51	9/21/2020	6/21/2021	019695153JJK	7340-08-0014	EnergySolutions, Clive, UT	Landfill	6/29/2021	7/2/2021
122106-01	PCB LIGHT BALLASTS/TRANSFORMERS/CAPACITORS	77	35	47	21	7/23/2020	6/21/2021	019695153JJK	7340-08-0014	EnergySolutions, Clive, UT	Landfill	6/29/2021	7/2/2021
122128-01	POTENTIALLY PCB CONTAMINATED PPE & PLASTIC	12	5	3	1	8/12/2020	6/21/2021	019695153JJK	7340-08-0014	EnergySolutions, Clive, UT	Landfill	6/29/2021	7/2/2021
122406-01	LLW PCB EXCESS EQUIPMENT FOR OFFSITE DISPOSAL	15,840	7,185	8,340	3,783	5/13/2021	7/29/2021	019695194JJK	7340-08-0016	EnergySolutions, Clive, UT	Landfill	8/12/2021	8/13/2021
121998-05	SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE FROM VENT DUCT TROUGHS/PCB SPILL SITE ENCAPSULATION ACTIVITIES	142	64	86	39	11/5/2020	8/20/2021	019695216JJK	7340-06-0002	EnergySolutions, Clive, UT	Landfill	9/9/2021	9/9/2021
122252-02	VENTILATION DUCT OIL AND WATER	503	228	447	203	3/15/2021	9/28/2021	019695234JJK	9750-04-0010	EnergySolutions, Clive, UT			
122193-07	EPOXY PAINT CHIPS, VEGETATION AND PPE	1,249	567	457	207	6/4/2021	10/14/2021	019695252JJK	7340-08-0017	EnergySolutions, Clive, UT	Landfill	10/25/2021	11/4/2021
122235-03	EPOXY PAINT CHIPS, VEGETATION, PPE, BERYLLIUM	1,343	609	551	250	6/30/2021	10/14/2021	019695252JJK	7340-08-0017	EnergySolutions, Clive, UT	Landfill	10/25/2021	11/4/2021
122253-01	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	116	53	60	27	1/19/2021	10/28/2021	019695257JJK	7340-06-0003	EnergySolutions, Clive, UT	Landfill	12/14/2021	12/17/2021
122253-02	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	115	52	59	27	3/15/2021	10/28/2021	019695257JJK	7340-06-0003	EnergySolutions, Clive, UT	Landfill	12/14/2021	12/17/2021
122253-03	PCB SPILL CLEANUP DEBRIS/ENCAPSULATION WASTE	150	68	94	43	7/6/2021	10/28/2021	019695257JJK	7340-06-0003	EnergySolutions, Clive, UT	Landfill	12/14/2021	12/17/2021
122252-03	VENTILATION DUCT OIL AND WATER	475	215	419	190	5/13/2021	10/28/2021	019695261JJK	9750-09-0022	EnergySolutions, Clive, UT			
122252-04	VENTILATION DUCT OIL AND WATER	496	225	440	200	7/1/2021	10/28/2021	019695261JJK	9750-09-0022	EnergySolutions, Clive, UT			
122252-05	VENTILATION DUCT OIL AND WATER	482	219	426	193	7/14/2021	10/28/2021	019695261JJK	9750-09-0022	EnergySolutions, Clive, UT			

Table 3. PCB Waste Activities: Waste Shipped Off-Site and/or Disposed of January 1, 2021 through December 31, 2021 (Continued)

Waste ID	Description	Gross Wt (lb)	Gross Wt (kg)	Net Wt (lb)	Net Wt (kg)	Earliest Date Removed from Service	Date Shipped	Manifest	Shipment No	Disposal Location	Disposal Method	Disposal Date	CoD Rec'd
122252-06	VENTILATION DUCT OIL AND WATER	496	225	440	200	8/5/2021	10/28/2021	019695261JJK	9750-09-0022	EnergySolutions, Clive, UT			
122252-07	VENTILATION DUCT OIL AND WATER	436	198	380	172	8/30/2021	12/14/2021	019695309JJK	9750-09-0023	EnergySolutions, Clive, UT			
106744-06	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,302	591	1,248	566	11/7/2005	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
106744-07	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,174	533	1,120	508	11/7/2005	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
106744-11	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,322	600	1,268	575	11/7/2005	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
107839-03	FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	678	308	643	292	6/27/2004	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
107839-04	FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	690	313	655	297	6/27/2004	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
107839-05	FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	676	307	641	291	6/27/2004	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
107839-06	FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	672	305	637	289	6/27/2004	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
107839-07	FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER RHL-0610. FORMERLY STAGED AT C-337 U2C8 "B" LOCATION.	784	356	741	336	6/27/2004	12/14/2021	019695317JJK	WP-9519-01	Waste Control Specialist, Andrews, TX			
106744-02	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,320	599	1,266	574	11/7/2005	12/14/2021	019695318JJK	WP-9519-02	Waste Control Specialist, Andrews, TX			
106744-03	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,330	603	1,276	579	11/7/2005	12/14/2021	019695318JJK	WP-9519-02	Waste Control Specialist, Andrews, TX			
106744-08	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,320	599	1,266	574	11/7/2005	12/14/2021	019695318JJK	WP-9519-02	Waste Control Specialist, Andrews, TX			
106744-09	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,318	598	1,264	573	11/7/2005	12/14/2021	019695318JJK	WP-9519-02	Waste Control Specialist, Andrews, TX			
106744-10	TRANSFORMER FINS FROM DAMAGED, DISCONNECTED, DE-ENERGIZED, AND DRAINED PCB TRANSFORMER B983126. FORMERLY STAGED AT C-337 U2C3 "B" LOCATION.	1,326	601	1,272	577	11/7/2005	12/14/2021	019695318JJK	WP-9519-02	Waste Control Specialist, Andrews, TX			
49	Total Weight Shipped for CY 2021*	129,149	58,581	85,443	38,756								
121625-01	$PCB\ LIGHT\ BALLASTS/TRANSFORMERS/CAPACITORS/ETC.$	296	134	240	109	9/10/2018	9/10/2019	019694669JJK	DSSI-19-096	DSSI, Inc., Kingston, TN	Landfill	12/17/2020	1/14/2021
121423-07	VENTILATION DUCT OIL AND WATER	496	225	440	200	5/9/2019	3/16/2020	019694871JJK	9750-04-0005	EnergySolutions, Clive, UT	Landfill	12/31/2020	1/5/2021
121423-08	VENTILATION DUCT OIL AND WATER	500	227	444	201	6/24/2019	3/16/2020	019694871JJK	9750-04-0005	EnergySolutions, Clive, UT	Landfill	12/31/2020	1/5/2021
121423-09	VENTILATION DUCT OIL AND WATER	492	223	436	198	8/20/2019	3/16/2020	019694871JJK	9750-04-0005	EnergySolutions, Clive, UT	Landfill	12/31/2020	1/5/2021
121423-10	VENTILATION DUCT OIL AND WATER	476	216	420	191	10/30/2019	3/16/2020	019694871JJK	9750-04-0005	EnergySolutions, Clive, UT	Landfill	12/31/2020	1/5/2021
121423-11	VENTILATION DUCT OIL AND WATER	492	223	436	198	12/2/2019	3/16/2020	019694871JJK	9750-04-0005	EnergySolutions, Clive, UT	Landfill	12/31/2020	1/5/2021
122023-21	PCB CONTAMINATED DEBRIS AND CHROMIUM CONTAMINATED BRICK	33,730	15,300	24,435	11,084	8/21/2020	9/10/2020	019694899JJK	9750-01-0030	EnergySolutions, Clive, UT	Landfill	9/28/2020	1/28/2021
121999-01	PCB VENTILATION DUCT LIQUIDS FROM VENTILATION TROUGHS IN PROCESS BUILDINGS	480	218	424	192	2/11/2020	10/20/2020	019694972JJK	9750-04-0006	EnergySolutions, Clive, UT	Landfill	6/21/2021	7/2/2021
122023-67	PCB CONTAMINATED DEBRIS AND CHROMIUM CONTAMINATED BRICK	45,200	20,502	37,310	16,924	9/25/2020	10/22/2020	019694994JJK	9750-01-0075	EnergySolutions, Clive, UT	Landfill	11/30/2020	2/23/2021
33	Total Weight for Certificate of Disposal Received for CY 2021*	193,154	87,613	132,990	60,323					·			

\*Totals may vary due to rounding.

### **APPENDIX**

WRITTEN RECORD DEMONSTRATING COMPLIANCE WITH 40 CFR § 761.65 (a)(1) REGARDING PCB-MIXED WASTE CONTAINERS STORED IN EXCESS OF ONE YEAR PRIOR TO SHIPPING DURING CALENDAR YEAR 2021



### Written Record Demonstrating Compliance with 40 CFR § 761.65 (a)(1) Regarding PCB-Mixed Waste Containers in Storage Exceeding One Year Disposal Requirement during First Quarter 2021

The following radioactively contaminated polychlorinated biphenyl (PCB) waste items remained in storage past the one year regulatory time frame specified in 40 CFR § 761.65(a)(1).

Waste items 106744-01 and 107839-01 are faulted transformers that have removed from service dates of November 7, 2005, and June 27, 2004, respectively. Due to their size and the structural/equipment interferences in the process buildings, options for disposal of these items continue to be evaluated.

### Written Record Demonstrating Compliance with 40 CFR § 761.65 (a)(1) Regarding PCB-Mixed Waste Containers in Storage Exceeding One Year Disposal Requirement during Second Quarter 2021

The following radioactively contaminated polychlorinated biphenyl (PCB) waste items remained in storage past the one year regulatory time frame specified in 40 CFR § 761.65(a)(1).

Waste items 106744-01 and 107839-01 are faulted transformers that have removed from service dates of November 7, 2005, and June 27, 2004, respectively. Due to their size and the structural/equipment interferences in the process buildings, options for disposal of these items continue to be evaluated.

### Written Record Demonstrating Compliance with 40 CFR § 761.65 (a)(1) Regarding PCB-Mixed Waste Containers in Storage Exceeding One Year Disposal Requirement during Third Quarter 2021

The following radioactively contaminated polychlorinated biphenyl (PCB) waste items remained in storage past the one year regulatory time frame specified in 40 CFR § 761.65(a)(1).

Waste items 106744-01 and 107839-01 are faulted transformers that have removed from service dates of November 7, 2005, and June 27, 2004, respectively. Due to their size and the structural/equipment interferences in the process buildings, options for disposal of these items continue to be evaluated.

### Written Record Demonstrating Compliance with 40 CFR § 761.65 (a)(1) Regarding PCB-Mixed Waste Containers in Storage Exceeding One Year Disposal Requirement during Fourth Quarter 2021

The following radioactively contaminated polychlorinated biphenyl (PCB) waste items remained in storage past the one year regulatory time frame specified in 40 CFR § 761.65(a)(1).

Waste items 106744-01 and 107839-01 are faulted transformers that have removed from service dates of November 7, 2005, and June 27, 2004, respectively. Due to their size and the structural/equipment interferences in the process buildings, options for disposal of these items were evaluated and it was determined that the transformers could be disassembled for removal from the facility. After detailed assessment of the building, a safe path was determined to allow access for these transformers to be removed from the building.

Waste items 106744-01 and 107839-01 have been prepped for shipment. The cooling radiator fins for all items have been removed and packaged. The fins for 106744-01 were repackaged into containers 106744-02 through 106744-11. The fins for 107839-01 were repackaged into 107839-02 through 107839-07.

Several containers of radiator fins have been shipped off-site. While preparing the transformers for shipment, it was determined that pipe fittings needed to be removed from the top of the transformers. These fittings were placed in container 122473-01; this container is currently scheduled to be shipped off-site in calendar year (CY) 2022. In accordance with 40 *CFR* § 761.65(c)(8), the PCB removed-from-service date of this container is June 27, 2004. The remaining radiator fins and transformer bodies (106744-01 and 107839-01) were shipped off-site during CY 2022.