Department of Energy

Portsmouth/Paducah Project Office
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(859) 219-4000

December 16, 2024

Ms. Grace Stutler
Site Coordinator
Ohio EPA Southeast District Office
2195 E. Front Street
Logan, Ohio 43138

PPPO-03-10030368-25

Dear Ms. Stutler:

ANNUAL REPORT FOR FISCAL YEAR 2024 FOR THE APRIL 13, 2010 DIRECTOR'S FINAL FINDINGS AND ORDERS FOR REMOVAL ACTION AND REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AND REMEDIAL DESIGN AND REMEDIAL ACTION, INCLUDING THE JULY 16, 2012 MODIFICATION THERETO (DFF&O)

Enclosed please find the U.S. Department of Energy (DOE) transmittal of the *Annual Report for Fiscal Year 2024 for the April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto (DFF&O)* (DOE/PPPO/03-1282&D1).

The DOE Portsmouth/Paducah Project Office is required to provide the Ohio Environmental Protection Agency with an annual report in accordance with Section VII, Paragraph 22, of the DFF&O. The report provides information about progress on specific decontamination and decommissioning activities at the Portsmouth Gaseous Diffusion Plant in Piketon, Ohio, for the period from October 1, 2023 through September 30, 2024. In addition, this report provides information regarding the established milestones for Fiscal Year 2024.

If you have any questions or require additional information, please contact Kristi Wiehle of my staff at (740) 897-5020.

Sincerely,

JEREMY DAVIS
Digitally signed by JEREMY DAVIS
Date: 2024.12.16 10:28:26 -05'00'

Jeremy D. Davis
Portsmouth Site Lead
Portsmouth/Paducah Project Office

Enclosure:
Annual Report for Fiscal Year 2024 for the DFF&O

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ANNUAL REPORT FOR FISCAL YEAR 2024 FOR THE APRIL 13, 2010 DIRECTOR'S FINAL FINDINGS AND ORDERS FOR REMOVAL ACTION AND REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AND REMEDIAL DESIGN AND REMEDIAL ACTION, INCLUDING THE JULY 16, 2012 MODIFICATION THERETO (DFF&O)

U.S. Department of Energy
DOE/PPPO/03-1282&D1

December 2024

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ANNUAL REPORT FOR FISCAL YEAR 2024 FOR THE APRIL 13, 2010 DIRECTOR'S FINAL FINDINGS AND ORDERS FOR REMOVAL ACTION AND REMEDIAL INVESTIGATION AND FEASIBILITY STUDY AND REMEDIAL DESIGN AND REMEDIAL ACTION, INCLUDING THE JULY 16, 2012 MODIFICATION THERETO (DFF&O)

U.S. Department of Energy
DOE/PPPO/03-1282&D1

December 2024

Prepared for
U.S. Department of Energy

Prepared by
Fluor-BWXT Portsmouth LLC, Under Contract DE-AC30-10CC40017
FBP-ER-RDRA-BG-RPT-0119, Revision 1

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ACRONYMS

ACM	Asbestos Containing Material
ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
COD	chemical oxygen demand
CQC	construction quality control
CY	calendar year
D&D	Decontamination and Decommissioning
D&D DFF&O	*The April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto*
DOE	U.S. Department of Energy
EE/CA	Engineering Evaluation/Cost Analysis
FCN	Field Change Notice
FY	fiscal year
GCL	geosynthetic clay liner
GIS	Geographic Information System
GML	geomembrane liner
GPS	global positioning system
HDPE	high density polyethylene
HMW	horizontal monitoring well
HPFW	high pressure fire water
ILTS	Interim Leachate Treatment System
IMTA	Impacted Material Transfer Area
ITR	interim transfer ramp
LCAS	Large Component Assay System
LCS	Leachate Collection System
LDS	Leak Detection System
LTS	Leachate Transmission System
MLTS	Modular Leachate Treatment System
MSA	material sizing area
MTS	Modular Treatment System
NDA	nondestructive assay
NPDES	National Pollutant Discharge Elimination System
NRD	Natural Resource Damage
NRD DFF&O	*The July 30, 2018 Director's Final Findings and Orders for CERCLA Actions to Restore Natural Resources*
ODH	Ohio Department of Health
Ohio EPA	Ohio Environmental Protection Agency
OSWDF	On-site Waste Disposal Facility
PCB	polychlorinated biphenyl
PEGASIS	PPPO Environmental Geographic Analytical Spatial Information System
PIM	Project Initiation Meeting
$PM_{2.5}$	Particulate matter 2.5 micrometers or less in diameter
PM_{10}	Particulate matter 10 micrometers or less in diameter
PORTS	Portsmouth Gaseous Diffusion Plant
PPE	personal protective equipment
PPPO	Portsmouth/Paducah Project Office
RA	Removal Action

RCRA	Resource Conservation and Recovery Act of 1976, as amended
RCW	Recirculating Cooling Water
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
RLCS	Redundant LCS
ROD	Record of Decision
SNM	Special Nuclear Material
SODI	Southern Ohio Diversification Initiative
SVOC	semi volatile organic compounds
TDS	total dissolved solids
TSP	total suspended particulate
TSS	total suspended solids
VOC	volatile organic compound
WAC	waste acceptance criteria
WAO	Waste Acceptance Organization

1. INTRODUCTION

The U.S. Department of Energy (DOE), Portsmouth/Paducah Project Office (PPPO), is required to report progress on specific decontamination and decommissioning (D&D) activities at the Portsmouth Gaseous Diffusion Plant (PORTS) in Piketon, Ohio. An annual report on these activities must be written and delivered to the Ohio Environmental Protection Agency (Ohio EPA) in accordance with Section VII, Compliance Schedule, Paragraph 22, Annual Report, of *The April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto* (Ohio EPA 2012), termed the D&D DFF&O. Various Milestone-related information that is required by Paragraph 22 of the D&D DFF&O is also provided in this report.

This Annual Report summarizes the Portsmouth D&D activities for fiscal year (FY) 2024. It describes progress on remedial investigation/feasibility studies (RI/FS) and Record of Decision (ROD), remedial design/remedial action (RD/RA), engineering evaluation/cost analysis (EE/CA), and removal actions (RA) activities for the period October 1, 2023, through September 30, 2024. Any activities that took place after this specified reporting period will be described in the FY 2025 annual report.

In addition, this report has been expanded in accordance with Section IX (Progress Reports and Notice) of *The July 30, 2018 Director's Final Findings and Orders for CERCLA Actions to Restore Natural Resources* (Ohio EPA 2018), termed the Natural Resource Damage (NRD) DFF&O. Section 6 will summarize progress over the past year on actions conducted pursuant to the NRD DFF&O, involving excavations at the X-740 Groundwater Plume and the X-231B Oil Biodegradation Plot.

This report is formatted similar to the quarterly reports; therefore, Section 2 of this report, progress on RI/FS and ROD activities, is reserved at this time; Section 3 addresses progress on RD/RA activities; Section 4 of this report, progress on EE/CA activities, is reserved at this time; Section 5 of this report, addresses progress on RA activities; Section 6 addresses progress on NRD activities; Section 7 addresses the changes in key personnel; Section 8 addresses additional report information requested by Ohio EPA; Section 9 addresses miscellaneous D&D DFF&O activities; and Section 10 includes the Milestone Compliance Schedule.

2. PROGRESS ON REMEDIAL INVESTIGATION/FEASIBILITY STUDIES (RI/FS) AND RECORD OF DECISION (ROD) ACTIVITIES

RESERVED

3. PROGRESS ON REMEDIAL DESIGN/REMEDIAL ACTION (RD/RA) ACTIVITIES

This section describes progress on the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) D&D-related RD/RA activities conducted under the D&D DFF&O at PORTS during FY 2024. As required by the D&D DFF&O, this section provides an accounting of the status of ongoing RD/RA activities.

3.1 SITE-WIDE WASTE DISPOSITION EVALUATION PROJECT

3.1.1 Description of Work Performed

On-site Waste Disposal Facility Phase III Balance of the On-site Disposal Remedy Construction Activities

- Field work continued at the On-site Waste Disposal Facility (OSWDF) in accordance with the *Comprehensive On-site Waste Disposal Facility Remedial Design/Remedial Action Work Plan for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio, Phase III Balance of the On-site Disposal Remedy* (DOE/PPPO/03-0751&D3) (Comprehensive OSWDF RD/RA Work Plan). Field activities this past year included:
  - Completed excavation of Cell 2, including hauling material to Cells 10 and 11 for screening, and hauling the elevation 720 sandstone material to be stored for future use.
  - Down-sized and relocated the elevation 680 sandstone to the X-611B area stockpile.
  - Removed the southwest ramp and installed a new ramp in Cell 2 to facilitate construction access.
  - Completed placing, tilling, sealing, compaction, and testing select fill in Cell 2.
  - Completed the select fill tie-in between Cell 1 and Cell 2.
  - Completed the Cell 2 clay liner placement.
  - Completed installation of the Cell 2 horizontal monitoring well (HMW).
  - Received and installed the geomembrane liner material (GML) for the Cell 2 liner.
  - Completed installation of the leak detection system (LDS) drainage layer including placing gravel, grading, and welding corridor piping.
  - Completed installation of the drainage layer perforated pipe.
  - Completed installation of three Cell 2 penetration boxes.
  - Completed construction of the Cell 2 and Cell 3 inter-cell berm.
  - Completed top of bowl excavation of Cell 3 and Cell 6, ripping and hauling to the excess material storage areas.
  - Continued screening operations for select fill for Cell 3 and Cell 6 clay liner.
  - Developed the construction punch list of final items to be completed prior to the project closeout of the South Leachate Transmission System (LTS) Valve Houses for Cells 2, 3, 6, 7, and 10 and the South Lift Station.
  - Completed construction of the internal Concrete Protective Liner for the Valve Houses for Cells 2, 3, 6, 7, and 10.
  - Cleaned the South LTS piping and valve houses and performed a camera inspection of the South LTS gravity lines.
  - Completed installation of the surface water channels for the Valve Houses, the South Lift Station, and the East Laydown area including the geotextile installation and placement of stone.
  - Completed installation of the protective covers over the constructed Valve House vaults for weather and fall protection.
  - Completed the as-built survey of the OSWDF Monitoring Access Road along the South LTS corridor.
  - Received materials and completed construction of the South LTS force main line.
  - Received the South LTS lift station pumps and accessories.
  - Began installation of the power poles and the electrical hardware for the South LTS.
  - Began installation of the leachate transmission line through Valve Houses #2, #3, #6, #7, and #10.
  - Began electrical work on the South LTS lift station.

- Completed the replacement of the canopy sump pumps for the Impacted Material Transfer Area (IMTA) Tanks 1 and 2A to meet the required Underwriters Laboratories (UL) listing.
- Completed final IMTA tank control panel installation.
- Completed installation of the IMTA isolation vault platform.
- Prepared subgrade, received and placed stone/aggregate for the East Laydown Area.
- Removed fence and installed the access road to Sedimentation Pond 1B to support the erosion repair at the sheet pile wall.
- Performed repairs and upgrades on the Interim Transfer Ramp (ITR) to prepare for the restart of the operation and disposal activities.
- Performed grading work on the Haul Road and installed new yellow barrier ropes and signs, as needed, in preparation for the restart of hauling in the 2024 construction season.
- Began installation of the water line, equipment pads, and electrical components for the X-790 office area.
- Continued collection of groundwater samples from the original groundwater monitoring wells, surface water samples, Leachate Collection System (LCS) samples, and stormwater samples.
- Continued collection of baseline parameter groundwater samples from the IMTA/Cell 6 groundwater monitoring wells.
- Began collection of baseline parameter groundwater samples from the elevation 720 sandstone monitoring trench.
- Conducted inspection, installation, and repair of erosion and sediment controls and surface water features following significant storm events.
- Continued level of effort field activities, including general maintenance of facilities and equipment, along with, mowing and weed abatement.

OSWDF Operation and Disposal Activities

- Operation and disposal activities at the OSWDF continued in FY 2024 in accordance with the *On-site Waste Disposal Facility (OSWDF) Operations and Maintenance Plan, Final Design, Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0701&D5) (OSWDF O&M Plan). DOE transferred approximately 7,826 truckloads of waste to the OSWDF for placement during FY 2024 consisting of the following:
  - 5,551 truckloads of Type 1 waste (soil from the X-231A Oil Biodegradation Plot/5-Unit Groundwater Plume Area excavation project)
  - 66 truckloads of Type 1 waste (soil from the 12-Acre Maintenance Action area excavation project).
  - 17 truckloads of Type 1 waste (soil from the Parcel 4L arsenic area excavation project).
  - 2 truckloads of Type 2 waste (personal protective equipment [PPE] generated from the Parcel 4L arsenic area excavation project).
  - 46 truckloads of Type 2 waste (X-333 Process Building deactivation project).
  - 962 truckloads of Type 2 waste (X-333 Process Building above ground debris).
  - 2 truckloads of Type 2 waste (debris generated from the X-344 Vent Stack project).
  - 698 truckloads of Type 2 waste (debris generated from the X-626 Recirculating Cooling Water [RCW] at- and below-grade demolition project).
  - 39 truckloads of Type 2 waste (PPE generated from the X-231A Oil Biodegradation Plot/5-Unit Groundwater Plume Area soil excavation project).
  - 12 truckloads of Type 2 waste (debris [primarily PPE] generated from the X-784 OSWDF project).
  - 2 truckloads of Type 2 waste (debris generated from the X-1000 Administration Building exterior protective brick wall for transformers).

  - 23 truckloads of Type 2 waste (debris [concrete, fencing] generated from the X-345 Special Nuclear Material [SNM] Storage Building).
  - 69 truckloads of Type 2 waste (debris generated from the X-747A Material Storage Yard for the Waste Disposition and Consolidation Project).
  - 16 truckloads of Type 2 waste (debris generated from the X-743 Lumber Storage Facility for the Waste Disposition and Consolidation Project).
  - 245 truckloads of Type 2 waste (debris generated from the X-326 Slab for the Waste Disposition and Consolidation Project).
  - 34 truckloads of Type 3 waste (X-333 Process Building internal transite panels - asbestos containing materials [ACM]).
  - 22 truckloads of Type 5 waste (X-333 Process Building above-grade ACM).
  - 20 truckloads of Type 5 waste (debris [asbestos contaminated concrete] generated from the X-626 RCW at- and below-grade demolition project).

- Received the final transfer of Type 1 waste from the X-231A Oil Biodegradation Plot project on December 20, 2023, for the calendar year (CY) 2023 construction season.

- Received the first transfer of Type 2 waste from the X-626 RCW demolition project on March 25, 2024, for the CY 2024 construction season.

- Completed the annual video camera inspections of the LDS, LCS, and Redundant LCS (RLCS) in accordance with the *On-site Waste Disposal Facility (OSWDF) Leachate and Impacted Surface Water Systems Plan, Final Design, Portsmouth Gaseous Diffusion Plant, Decontamination & Decommissioning Project, Piketon, Ohio* (DOE/PPPO/03-0441&D5) (OSWDF LISWSP). In FY 2024, the annual video camera inspections of the LDS, LCS, and RLCS for Valve House #1 were completed on October 11, 2023 and June 5, 2024, for Valve House #4 on June 6, 2024, and for Valve House #5 on July 7, 2024. The videos from 2024 will be compared to the videos collected in 2023 to determine if there is any pooling water, crushed pipes, blockages, or increased sediment that will require removal.

- Completed the video camera inspection of the LTS gravity line on August 8, 2024. The inspection is required every 3 years in accordance with the OSWDF LISWSP.

2021 OSWDF Annual Project Status Report

- On January 5, 2024, Ohio EPA provided no comments on the revised *2021 On-Site Waste Disposal Facility Annual Project Status Report for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-1109&D1). The report describes the environmental monitoring activities during CY 2021 in accordance with the *On-Site Waste Disposal Facility (OSWDF) Performance Standards Verification Plan for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0803&D4) (OSWDF PSVP).

2022 OSWDF Annual Project Status Report

- On October 16, 2023, DOE provided the *2022 On-Site Waste Disposal Facility Annual Project Status Report for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-1169&D1) (2022 OSWDF Annual Report). The report describes the environmental monitoring activities during CY 2022 in accordance with the OSWDF PSVP.
  - On December 8, 2023, Ohio EPA requested the raw data files for the X780-C07-14B nitrate and nitrite results for the first quarter 2023.
  - On December 12, 2023, via electronic transmittal [K. Wiehle to G. Stutler], DOE provided the requested data to Ohio EPA.

- On February 23, 2024, Ohio EPA provided no comments on the 2022 OSWDF Annual Report.

Preconstruction Laboratory Testing

- On April 8, 2024, DOE provided the *Preconstruction Laboratory Testing – Compacted Clay Liner, Cell 2 of the On-Site Waste Disposal Facility, Portsmouth Gaseous Diffusion Plant, Piketon, Ohio,* to Ohio EPA. This report included the laboratory test results from 69 samples collected from 10 clay liner stockpiles, confirming the soil from the stockpiles met the design requirements for use as compacted clay liner material for Cell 2 of the OSWDF.
  - On April 16, 2024, Ohio EPA provided concurrence with the preconstruction laboratory testing results for soil to be used for the compacted clay liner as part of the construction of Cell 2 at the OSWDF.

Preconstruction Test Results for Geosynthetic Clay Liner (GCL) Material

- On July 2, 2024, DOE provided the *On-Site Waste Disposal Facility Pre-Construction Test Results for Geosynthetic Clay Liner Material to be used for Cell 2 Liner Construction at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio,* to Ohio EPA. This report documented the acceptability of 431 rolls of geosynthetic clay liner (GCL) material from one lot, which exceeds the total square footage of GCL material required for Cell 2.
  - On July 15, 2024, Ohio EPA provided concurrence with the preconstruction test results for the GCL to be used as part of the construction of Cell 2 at the OSWDF.

Endangered Species Action Section 7 Determination

- On September 16, 2024, the *Portsmouth Gaseous Diffusion Plant D&D Project Bat Presence/Probable Absence Survey, #24-051* was submitted to the U.S. Fish and Wildlife Service (USFWS) Ecological Services as required by the applicable or relevant and appropriate requirements (ARARs) in the *Record of Decision for the Site-Wide Waste Disposition Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0513&D2).

Ohio EPA Inspections and Meetings

- Ohio EPA Southeast District Office personnel were on site to conduct field inspections along with DOE and DOE's D&D Contractor representatives, of the construction progress and operations on the following dates:
  - On October 10, 2023 - observed waste placement operations and soil and debris truck transport to the active cells via the ITR #2. Construction progress observed at the Cell 2 excavation project included ripping, loading, hauling, and dust suppression activities.
  - On November 14, 2023 - observed waste placement operations and soil and debris truck transport to the active cells via the ITR #2. Construction progress observed at the Cell 2 excavation project included excavation and sandstone removal, and select fill screening and stockpiling.
  - On December 11, 2023 - observed construction progress at the Cell 2 excavation. The inspection included observing removal of the elevation 720 sandstone and confirmed groundwater was not infiltrating the cell.
  - On January 16, 2024 - observed construction progress at Cell 2 including select fill placement and winterization protection, and select fill screening and stockpiling.
  - On March 14, 2024 - observed construction progress at Cell 2 including select fill placement, exposure of the Cell 1 and Cell 2 liner tie-in location, and select fill screening and stockpiling.

- April 9, 2024 – attended the OSWDF Cell 2 Liner Construction Clay Layer Placement Pre-activity Meeting, observed Cell 2 select fill placement, exposure of the Cell 1 and Cell 2 liner tie-in, select fill screening and stockpiling, and the operating cells waste transportation, transfer, and placement.
- April 16, 2024 – reviewed the Construction Quality Control (CQC) Nuclear Density Test Reports, observed Cell 2 select fill placement, Cell 2 clay layer placement, select fill screening and stockpiling, and the operating cells waste transportation, transfer, and placement.
- April 23, 2024 – reviewed the CQC Nuclear Density Test Reports, observed Cell 2 select fill placement, Cell 2 clay layer placement, select fill screening and stockpiling, and the operating cells waste transportation, transfer, and placement.
- May 2, 2024 – reviewed the CQC Nuclear Density Test Reports, observed Cell 2 subgrade finish grading, Cell 2 and Cell 3 intercell berm finish grading, Cell 2 clay layer placement, and select fill screening and stockpiling.
- May 7, 2024 – observed Cell 2 subgrade finish grading on the west side of the drainage corridor, Cell 2 and Cell 3 intercell berm finish grading, Cell 2 clay layer placement, and select fill screening and stockpiling.
- May 21, 2024 – reviewed the CQC Nuclear Density Test Reports, observed Cell 2 clay layer placement, and excavation in preparation for Cell 2 piping installation.
- May 28, 2024 – discussed the upcoming field change notice (FCN) related to articulated truck proof-rolling and engineering submittals, observed Cell 2 clay layer placement, rework and re-testing of the east Cell 2 intercell berm due to failed density test, and select backfill placement in the south end of Cell 2.
- June 4, 2024 – reviewed the CQC Nuclear Density Test Reports, observed Cell 2 clay layer placement, Cell 2 select backfill placement in the southern end, trenching installation of the HMW piping in Cell 2, and clay layer material screening.
- June 11, 2024 – discussed the upcoming FCN related to Type 5 large equipment special placement plans.
- June 18, 2024 – observed Cell 2 clay layer placement, Cell 2 select backfill placement in the southern end, installation of the HMW piping in Cell 2, and clay layer material screening.
- June 25, 2024 – reviewed the CQC Nuclear Density Test Reports, discussed the anomaly with the transite transfer, observed Cell 2 clay layer placement, Cell 2 and Cell 3 select backfill placement, backfill of the Cell 2 HMW, Cell 3 excavation, clay and select backfill material processing, and work on Valve House #2.
- July 2, 2024 – reviewed the daily and CQC Nuclear Density Test Reports, entered Valve House #2 using fall protection to inspect the concrete protective liner.
- July 9, 2024 – reviewed the daily and CQC Nuclear Density Test Reports, observed Cell 2 clay layer placement, installation of Cell 2 leak detection piping, and penetration boxes.
- July 16, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed the high density polyethylene (HDPE) welding machine, observed Cell 2 clay layer placement and trenching for the Cell 2 RLCS pipe installation.
- July 23, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed the upcoming FCN related to using articulated trucks for proof rolling, a small tear in the sacrificial geomembrane in Cell 1 near the former ITR #1, observed deployment of Cell 2 GCL, and inspected the staged precast manhole structure for the South LTS force main.

- July 30, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed the HDPE pipe centralizer non-conformance report, observed deployment of Cell 2 GCL, Cell 3 bowl excavation, and South LTS force main.
- August 6, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed South LTS HDPE pipe testing progress, observed Cell 2 GCL deployment, penetration boxes, and Cell 3 bowl excavation.
- August 13, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed placement of the X-333 Process Building ACM, South LTS conduit penetrations, observed Cell 2 GCL installation and electric leak detection testing, inspected Cell 2 penetration boxes and the South LTS force main installation progress.
- August 20, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed the design change to add fusion welding of geotextile in addition to stitching, observed the Cell 2 secondary liner installation, Cell 3 and Cell 6 bowl excavations, and the South LTS force main installation progress.
- August 27, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed Cell 2 LDS penetration box pipe clearance, effects of a heat wave on the Cell 2 geosynthetic liner wrinkling, observed Cell 2 LDS penetration box clearance, backfill progress of Cell 2 anchor trenches, and Cell 2 drainage layer aggregate placement.
- September 3, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed the geotextile fire in Cell 2 at the LDS stub-out location, the use of mechanical couplings in lieu of the electrofusion couplings, observed the area of the fire, Cell 2 geotextile placement and stitching, and Valve House #2 progress.
- September 17, 2024 - reviewed the daily and CQC Nuclear Density Test Reports, discussed the upcoming deployment of the primary liner for Cell 2, observed the Cell 2 drainage layer aggregate surface, Cell 2 electric leak location, and Cell 3 and Cell 6 bowl excavations, inspected the completed South LTS force main installation and communications conduit.
- September 24, 2024 - reviewed the daily reports, discussed including the geotextile fire in the certification report, observed Cell 2 surveying and Cell 3 and Cell 6 bowl excavation.

Prefinal Construction Completion Conference and Inspection Reports

- On October 3, 2023, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Reports for August 8, 2023 and September 12, 2023*, to Ohio EPA.
  - Ohio EPA provided concurrence to DOE on October 31, 2023.

- On December 7, 2023, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Reports for October 10, 2023 and November 14, 2023 at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, to Ohio EPA.
  - Ohio EPA provided concurrence to DOE on December 22, 2023.

- On February 15, 2024, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Reports for December 11, 2023 and January 16, 2024 at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, to Ohio EPA.
  - Ohio EPA provided concurrence to DOE on February 23, 2024.

- On April 22, 2024, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Report for March 14, 2024 at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, to Ohio EPA.

  - On May 17, 2024, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Reports for April 9, 2024 through May 2, 2024 at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio,* to Ohio EPA.
  - Ohio EPA provided concurrence to DOE on May 21, 2024.

- On June 5, 2024, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Reports for May 7, 2024 through May 28, 2024 at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio,* to Ohio EPA.
  - Ohio EPA provided concurrence to DOE on July 3, 2024.

- On August 15, 2024, DOE provided the *On-site Waste Disposal Facility Prefinal Construction Completion Conference and Inspection Reports for June and July 2024 at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, to Ohio EPA.
  - Ohio EPA provided concurrence to DOE on September 13, 2024.

3.1.2 Design Changes During Construction

- In accordance with Section 3.4.2 of the Comprehensive OSWDF RD/RA Work Plan, *Design Changes during Construction*, minor changes to the OSWDF Design that do not meet the criteria of an FCN will be reported through the D&D DFF&O Quarterly Progress Reports. These changes do not change the basis of design and do not negatively impact the design. The following three minor changes were noted in FY 2024.
  - The original wheel wash grading was developed around a conceptual wheel wash unit. Upon completion of the wheel wash design and fabrication, the grading was altered to better accommodate the actual unit to be installed and help with operational considerations. The location is slightly northwest of the conceptual location, but still within the same functional area.
  - A minor change to Geotextile Construction Specification (FBP-CSPEC-02714-OSWDF) included the addition of thermal fusion welding for geotextile fabric with a wedge welder as an alternative to stitching methodology. This was discussed with Ohio EPA during the August 20, 2024, inspection and captured in the associated inspection report. Email correspondence [C. Bradford to K. Wiehle] indicated approval from Ohio EPA as minor change.
  - A minor change to the Cell 2 Certified for Construction drawings replaced electrofusion couplers with a mechanical fitting (Victaulic 905 coupling). This change was specific to the previously installed, 15 ft long LDS and 10 ft long LCS perforated pipes (installed as part of Cell 1 construction). This change was prompted by the August 28, 2024, fire discussed in Section 3.1.4 below. The fire and this minor change were discussed with Ohio EPA during the September 3, 2024, inspection and captured in the associated inspection report.

- The following FCNs were submitted to Ohio EPA in accordance with Section 3.4.2, *Design Changes during Construction,* of the Comprehensive OSWDF RD/RA Work Plan.
  - On November 2, 2023, DOE submitted the *Field Change Notice 04 to the On-Site Waste Disposal Facility Operations and Maintenance Plan for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (FBP-ER-RDRA-WD-PLN-0061-R13-04) to Ohio EPA. FCN 04 proposed a change in the main text of the OSWDF O&M Plan and to the OSWDF LISWSP, which is Appendix C of the OSWDF O&M Plan. FCN 04 proposed a methodical transition between initial and full-scale operations of the OSWDF, including Phases 1 and 2 of the X-790 Interim Leachate Treatment System (ILTS). FCN 04 also

proposed to correct a typographical error in the LISWSP that was identified during preparation of the operations phase of the FCN 04.
  - On December 4, 2023, Ohio EPA provided a request for additional time for completion of the Ohio EPA review of FCN 04 to DOE.
  - On January 10, 2023, Ohio EPA provided concurrence on the FCN 04 to DOE.
- On April 22, 2024, DOE submitted FCN-FBP-ER-RDRA-WD-PLN-0061-R13-06 (FCN 06 for Transite Placement) to the OSWDF O&M Plan to Ohio EPA. This FCN provided changes to the *On-site Waste Disposal Facility (OSWDF) Impacted Material Placement Plan (IMPP), Final Design, Portsmouth Gaseous Diffusion Plant, Decontamination & Decommissioning Project, Piketon, Ohio*, (DOE/PPPO/03-0344&D4) (OSWDF IMPP), which is Appendix B of the OSWDF O&M Plan. FCN 06 provided two additional alternate placement methods for Type 3 impacted material transite bundles in the OSWDF.
  - On May 21, 2024, Ohio EPA provided concurrence on FCN 06 for Transite Placement to DOE.
- On September 10, 2024, DOE submitted *Field Change Notice (FCN 07) to the On-Site Waste Disposal Facility Operations and Maintenance Plan for the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (FCN-FBP-ER-RDRA-WD-PLN-0061-R13-07) (FCN 07 for Proof-rolling) to Ohio EPA. This FCN provided changes to the OSWDF IMPP, which is Appendix B of the OSWDF O&M Plan. The FCN 07 for Proof-rolling proposed alternative proof-rolling requirements that allow use of pneumatic-tired vehicles that have a minimum gross vehicle weight of 55 tons (loaded) and exert a minimal ground pressure of 50 psi (e.g., articulated dump truck) to perform proof-rolling in the OSWDF.
  - On October 9, 2024, Ohio EPA provided concurrence on FCN 07 for Proof-rolling to DOE.

3.1.3 Summary of Samplings and Findings

Samples were collected from groundwater wells and surface water locations identified in the OSWDF PSVP to determine the quality of water in these locations during placement of waste in the OSWDF. Operational samples are analyzed for the same list of analytes as for the LCS described in the OSWDF PSVP. Monthly operational samples were collected and included the following:

- **Groundwater Monitoring Wells** – Baseline parameter sampling was completed for replacement monitoring well X780-C08-17BA in January. In February, X780-C08-17BA was included along with the other 25 groundwater wells and it was sampled for the monthly and quarterly parameter list. It has been determined that all sampling requirements for X780-C08-17BA will mirror monitoring well X780-C08-17B in order to further aid evaluation, and also bring all wells in compliance with the OSWDF PSVP as it will take some time to evaluate if this well has been established as a satisfactory replacement for monitoring well X780-C08-17B. In FY 2024, no water volume could be obtained from three of the groundwater monitoring wells (X780-C02-04S, X780-C07-15S, and X780-C09-20SA). These three wells were installed in the Cuyahoga Sunbury interface and specifically installed to monitor any water present at the bottom of the Cuyahoga. These three wells are expected to be dry or contain very little water. The remaining 23 monitoring wells were sampled and analytes were collected as follows:
  - October (monthly and semi-annual detections - parameters detected in leachate during previous calendar year excluding metals and hexavalent chromium). Pesticides and polychlorinated biphenyl (PCBs), low level mercury (Hg), dioxins/furans, chemical oxygen demand (COD), total dissolved solids (TDS), fluoride, and sulfide were not collected from X780-C03-07C due to insufficient volume.

- November (monthly and quarterly parameter list along with metals detected in leachate during previous calendar year including hexavalent chromium). Pesticides and PCBs were not collected from X780-C03-07C due to insufficient volume.
- January (monthly and semi-annual parameters). Volatile organic compounds (VOCs) and semi volatile organic compounds (SVOCs) were not collected from X780-C03-07C due to insufficient volume.
- February (monthly and quarterly parameter list). Herbicides, pesticides, and PCBs were not collected from X780-C03-07C due to insufficient volume.
- March (monthly parameter list only).
- April (monthly and semi-annual parameters). Pesticides, PCBs, low level mercury, dioxins/furans, COD, TDS, fluoride, and sulfide were not collected from X780-C03-07C due to insufficient volume.
- May (monthly and quarterly parameter list). SVOCs, pesticides, and PCBs were not collected from X780-C03-07C due to insufficient volume.
- June (monthly parameter list only). Pesticides and PCBs were not collected from X780-C03-07C due to insufficient volume.
- July (monthly and semi-annual parameters). Isotopic uranium, SVOCs, pesticides, and PCBs were not collected from X780-C03-07C due to insufficient volume.
- August (monthly and quarterly parameter list) all samples were collected.
- September (monthly parameter list only) all samples were collected.
- Sampling results for groundwater monitoring well X780-C08-17B has shown a statistically significant change in iron for three consecutive quarterly results and ammonia for two quarterly results as discussed in the letter, *Statistically Significant Change of an Indicator Parameter at the On-site Waste Disposal Facility, Portsmouth Gaseous Diffusion Plant,* submitted to Ohio EPA on February 23, 2024, and as discussed in a teleconference between Ohio EPA, DOE, and DOE's D&D Contractor on February 27, 2024.

- **IMTA/Cell 6 Groundwater Monitoring Wells** - Baseline sampling resumed in October for 9 of the 12 monitoring wells. Five additional rounds (Rounds 4 - 8) of baseline parameters were collected in October, late November/early December, January, late February, and June, respectively. Additional rounds of sampling will continue to fill in the data gaps to complete eight rounds of parameters for these 9 wells. In FY 2024, no water volume could be obtained from three of the groundwater monitoring wells (X780-C15-33C, X780-C19-38S, and X780-C23-43M). The remaining 9 monitoring wells were sampled and analytes were collected as follows:
  - March – monitoring well X780-C22-42M was sampled for baseline parameters (Round 1). Technetium-99, isotopic uranium, low level mercury, SVOCs, dioxins/furans, COD, sulfide, and cyanide were not collected due to insufficient volume.
  - April – monitoring well X780-C22-42M was sampled for baseline parameters (Round 2); however, thorium, technetium-99, isotopic uranium, low level mercury, SVOCs, dioxins/furans, COD, sulfide, and cyanide were not collected due to insufficient volume.
  - May – monitoring well X780-C22-42M was sampled for baseline parameters (Round 3); however, technetium-99, isotopic uranium, low level mercury, SVOCs, dioxins/furans, COD, sulfide, and cyanide were not collected due to insufficient volume.
  - June – Baseline parameters (Round 8). SVOCs, dioxins/furans, COD, sulfide, and cyanide were not collected from well X780-C16-34B due to insufficient volume.
  - July – monitoring well X780-C22-42M was sampled for baseline parameters (Round 4); however, thorium, technetium-99, isotopic uranium, low level mercury, SVOCs, dioxins/furans, COD, sulfide, and cyanide were not collected due to insufficient volume.

- August – monitoring well X780-C22-42M was sampled for baseline parameters (Round 5); however, pesticides, PCBs, transuranics, thorium, technetium-99, isotopic uranium, low level mercury, SVOCs, dioxins/furans, COD, sulfide, and cyanide were not collected due to insufficient volume.

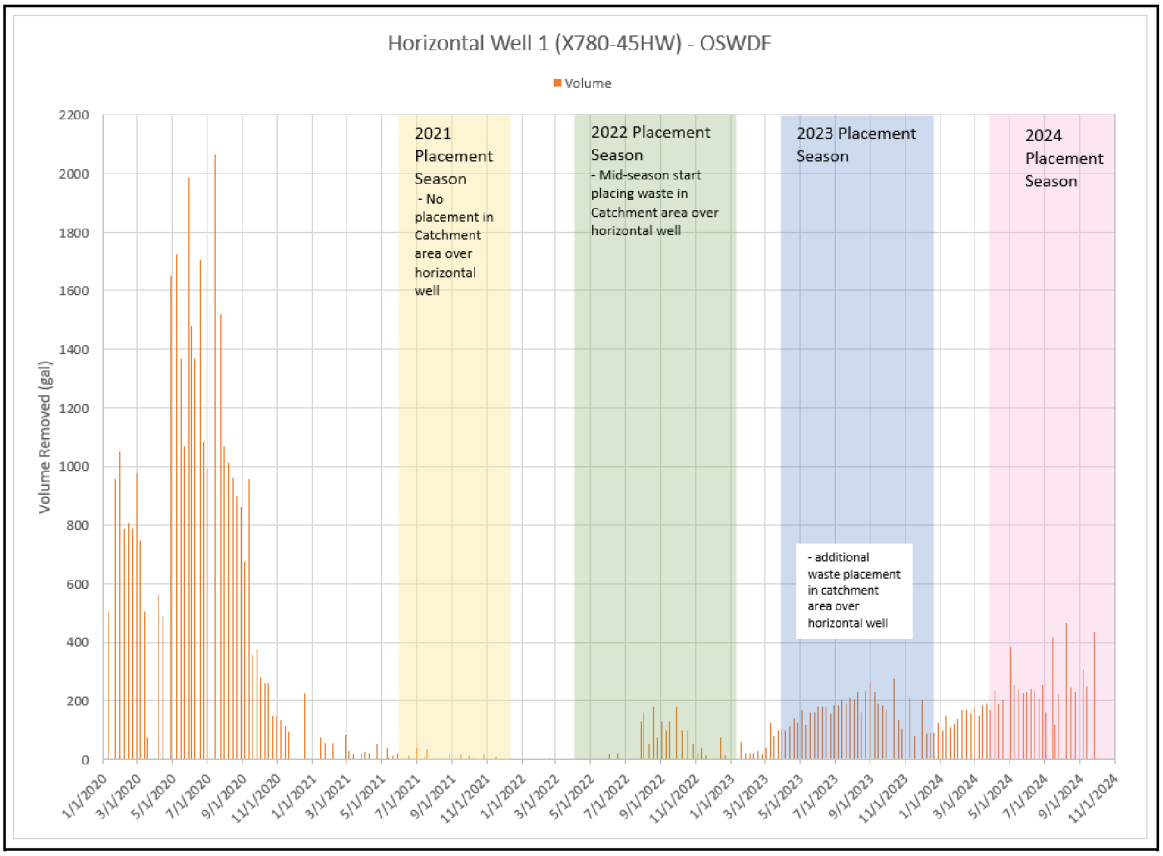
- **Cuyahoga 720 Sandstone Monitoring Trench** - Baseline monitoring began in February for trench locations X780-C24-44TW and X780-C25-45TW. Six rounds of baseline parameter samples were collected from both trench locations in FY 2024.

- **Surface Water** - Samples were attempted to be collected from eight surface water locations.
  - October (monthly parameter list only).
  - November (monthly and quarterly parameter list). No samples were collected from X780-SW04 or X780-SW07 due to locations being dry.
  - December (monthly parameter list only for all locations, plus the quarterly parameter list for X780-SW04 or X780-SW07 due to dry conditions in November).
  - January (monthly parameter list only).
  - February (monthly and quarterly parameter list).
  - March (monthly parameter list only).
  - April (monthly parameter list only) all samples were collected.
  - May (monthly and quarterly parameter list) all samples were collected.
  - June (monthly parameter list only). X780-SW07 was not sampled due to location being dry.
  - July (monthly parameter list only). X780-SW03 and X780-SW04 were not sampled due to locations being dry.
  - August (monthly and quarterly parameter list). X780-SW03 and X780-SW04 were not sampled due to locations being dry.
  - September (monthly parameter list only) all samples collected. X780-SW03 and X780-SW04 (monthly and quarterly parameter list).
  - No increasing trends in monitoring parameters that exceed administrative limits (pre-operational background sampling) were identified for surface water in FY 2024.

- **Horizontal Monitoring Wells** - Cells 1, 4, and 5 HMWs were inspected for water and sampled if sufficient water was present.
  - October (monthly parameter list only). Cells 4 and 5 HMWs were dry. On October 12, 2023, Cell 1 HMW contained approximately 276.32 gallons of water, which was purged and sampled. On October 19, 2023, Cell 1 HMW contained approximately 133.07 gallons of water, which was purged. On October 26, 2023, Cell 1 HMW contained approximately 107.5 gallons of water, which was purged.
  - November (monthly parameter list only). Cells 4 and 5 HMWs were dry. On November 9, 2023, Cell 1 HMW contained approximately 212.21 gallons of water, which was purged. On November 16, 2023, Cell 1 HMW contained approximately 78.5 gallons of water, which was purged and sampled. On November 30, 2023, Cell 1 HMW contained approximately 202.44 gallons of water, which was purged.
  - December (monthly parameter list only). Cells 4 and 5 HMWs were dry. On December 7, 2023, Cell 1 HMW contained approximately 88.56 gallons of water, which was purged. On December 14, 2023, Cell 1 HMW contained approximately 90.9 gallons of water, which was purged. On December 20, 2023, Cell 1 HMW contained approximately 92.46 gallons of water, which was purged and sampled. On December 28, 2023, Cell 1 HMW contained approximately 126.46 gallons of water, which was purged.

- January (monthly and semi-annual parameter list). Cells 4 and 5 HMWs were dry. On January 4, 2024, Cell 1 HMW contained approximately 96.84 gallons of water, which was purged. On January 11, 2024, Cell 1 HMW contained approximately 147.53 gallons of water, which was purged. On January 18, 2024, Cell 1 HMW contained approximately 110.7 gallons of water, which was purged. On January 25, 2024, Cell 1 HMW contained approximately 123.1 gallons of water, which was purged. On January 31, 2024, Cell 1 HMW contained approximately 137.1 gallons of water, which was purged and sampled.
- February (monthly parameter list only). Cells 4 and 5 HMWs were dry. On February 8, 2024, Cell 1 HMW contained approximately 166.8 gallons of water, which was purged. On February 15, 2024, Cell 1 HMW contained approximately 166.5 gallons of water, which was purged and sampled. On February 22, 2024, Cell 1 HMW contained approximately 155.6 gallons of water, which was purged. On February 29, 2024, Cell 1 HMW contained approximately 179.4 gallons of water, which was purged.
- March (monthly parameter list only). Cells 4 and 5 HMWs were dry. On March 7, 2024, Cell 1 HMW contained approximately 150.34 gallons of water, which was purged and sampled. On March 14, 2024, Cell 1 HMW contained approximately 183.94 gallons of water, which was purged. On March 21, 2024, Cell 1 HMW contained approximately 190.68 gallons of water, which was purged. On March 27, 2024, Cell 1 HMW contained approximately 167.88 gallons of water, which was purged.
- April (monthly parameter list only). Cells 4 and 5 HMWs were dry. On April 4, 2024, Cell 1 HMW contained approximately 233.75 gallons of water, which was purged and sampled. On April 11, 2024, Cell 1 HMW contained approximately 186.35 gallons of water, which was purged. On April 18, 2024, Cell 1 HMW contained approximately 203.93 gallons of water, which was purged.
- May (monthly parameter list only). Cells 4 and 5 HMWs were dry. On May 2, 2024, Cell 1 HMW contained approximately 385.95 gallons of water, which was purged. On May 9, 2024, Cell 1 HMW contained approximately 253.2 gallons of water, which was purged and sampled. On May 16, 2024, Cell 1 HMW contained approximately 236 gallons of water, which was purged. On May 23, 2024, Cell 1 HMW contained approximately 227.1 gallons of water, which was purged. On May 30, 2024, Cell 1 HMW contained approximately 228.33 gallons of water, which was purged.
- June (monthly parameter list only). Cells 4 and 5 HMWs were dry. On June 6, 2024, Cell 1 HMW contained approximately 240.07 gallons of water, which was purged and sampled. On June 13, 2024, Cell 1 HMW contained approximately 235.42 gallons of water, which was purged. On June 20, 2024, Cell 1 HMW contained approximately 206.61 gallons of water, which was purged. On June 27, 2024, Cell 1 HMW contained approximately 251.95 gallons of water, which was purged.
- July (monthly and semi-annual parameters). Cells 4 and 5 HMWs were dry. On July 2, 2024, Cell 1 HMW contained approximately 162 gallons of water, which was purged. On July 15, 2024, Cell 1 HMW contained approximately 414 gallons of water, which was purged and sampled. On July 18, 2024, Cell 1 HMW contained approximately 119 gallons of water, which was purged. On July 25, 2024, Cell 1 HMW contained approximately 221 gallons of water, which was purged.
- August (monthly parameter list only). Cells 4 and 5 HMWs were dry. On August 8, 2024, Cell 1 HMW contained approximately 467 gallons of water, which was purged and sampled. On August 15, 2024, Cell 1 HMW contained approximately 244 gallons of water, which was purged. On August 22, 2024, Cell 1 HMW contained approximately 232 gallons of water, which was purged.

- September (monthly parameter list only). Cells 4 and 5 HMWs were dry. On September 5, 2024, Cell 1 HMW contained approximately 306 gallons of water, which was purged and sampled. On September 12, 2024, Cell 1 HMW contained approximately 251 gallons of water, which was purged. On September 26, 2024, Cell 1 HMW contained approximately 434 gallons of water, which was purged.
- Quantity and quality information from the water samples collected from the Cell 1 HMW and the associated LCS/LDS is being continuously evaluated for leak detection purposes as specified in the OSWDF PSVP. Analytical results of the water samples from HMW-1 are very different from the results of the LCS-1 leachate water (i.e., technetium-99 and trichloroethene were detected in LCS-1 but not in HMW-1). In addition, uranium isotropic sampling results show enriched uranium in the LCS leachate, but only natural uranium in HMW-1. In general, the timing and volume of recovered construction water in Cell 1 HMW reflect continued or suspended soil/debris placement in Cell 1 over the original catchment area as shown in the following chart. Due to the continuous and stable inflow observed in the last two quarters, DOE is also evaluating the potential contribution of additional surface water infiltration from the storm water channel along the northern edge of Cell 1 through the horizontal pipe trench bed and the soil bentonite plug of the HMW to the perforated section of pipe.



- **LCS/LDS** - Samples were collected from the LCS/LDS.
  - October - Valve Houses #1, #4, and #5 (monthly parameter list only). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4 and #5 due to locations having insufficient liquid.

- November - Valve Houses #1, #4, and #5 (monthly and quarterly parameter list). LCS samples were collected. LDS samples (monthly and quarterly parameter list) at #5 were collected. No LDS samples were collected at Valve Houses #1 and #4 due to locations having insufficient liquid.
- December - Valve Houses #1, #4 and #5 (monthly parameter list only). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4 and #5 due to locations having insufficient liquid.
- January - Valve Houses #1, #4, and #5 (monthly and semiannual parameter list). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4, and #5 due to locations having insufficient liquid.
- February - Valve Houses #1, #4, and #5 (monthly and quarterly parameter list). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4, and #5 due to locations having insufficient liquid.
- March - Valve Houses #1, #4, and #5 (monthly parameter list only). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4, and #5 due to locations having insufficient liquid.
- April - Valve Houses #1, #4, and #5 (monthly parameter list only). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4, and #5 due to locations having insufficient liquid.
- May - Valve Houses #1, #4, and #5 (monthly and quarterly parameter list). LCS samples were collected. No LDS samples were collected at Valve Houses #1, #4, and #5 due to locations having insufficient liquid.
- June - Valve Houses #1, #4, and #5 (monthly parameter list only). LCS samples were collected. No LDS samples were collected at Valve Houses #1 and #4 due to locations having insufficient liquid. Valve House #5 (monthly, quarterly and semiannual parameter list) collected all parameters for LDS samples.
- July - Valve Houses #1, #4, and #5 (monthly and semiannual parameter list). LCS samples were collected. No LDS samples were collected at Valve Houses #1 and #4 due to locations having insufficient liquid. Valve House #5 (monthly, quarterly and semiannual parameter list) collected all parameters for LDS samples.
- August - Valve Houses #1, #4, and #5 (monthly and quarterly parameter list). No LCS samples were collected at Valve Houses #1, #4 and #5 due to locations having insufficient liquid. No LDS samples were collected at Valve Houses #1 and #4 due to locations having insufficient liquid. Valve House #5 (monthly parameter list only) collected all parameters for LDS samples.
- September - Valve Houses #1, #4, and #5 (monthly parameter list only). Valve House #4 (monthly and quarterly parameter list) LCS samples were collected. No LCS samples were collected at Valve Houses #1 and #5 due to locations having insufficient liquid. No LDS samples were collected at Valve Houses #1 and #4 due to locations having insufficient liquid. Valve House #5 collected all parameters for LDS samples.
- Leachate water continues to be evaluated and any detections not already part of the groundwater monitoring program will be added to the groundwater program the following year.

- **Stormwater Discharge** - Samples were attempted to be collected at the five sampling locations as described in the OSWDF PSVP.
  - October (monthly parameter list only).
  - November (monthly and quarterly parameter list). No samples were collected from X783SEDPDA-OF due to location being dry.

- December (monthly parameter list only for all locations, plus the quarterly parameter list for X783SEDPDA-OF due to location being dry in November).
- January (monthly parameter list only).
- February (monthly and quarterly parameter list).
- March (monthly parameter list only).
- April (monthly parameter list only).
- May (monthly and quarterly parameter list).
- June (monthly parameter list only).
- July (monthly parameter list only). X783SEDPD02-OF was not sampled due to location being dry.
- August (monthly and quarterly parameter list). X783SEDPD02-OF was not sampled due to location being dry.
- September (monthly parameter list only). X783SEDPD02-OF (monthly and quarterly parameter list).

- **Stormwater Discharge Sampling Results** - This bullet summarizes exceedances of the benchmark concentrations for stormwater discharge monitoring at the sedimentation and detention ponds (Section 5.2.4, *Data Evaluation*, of the OSWDF PSVP).
  - The benchmark concentration for total suspended solids at the sedimentation ponds (100 mg/L) was exceeded as follows:

Sedimentation and Detention Pond A:	March 6, 2024	150 mg/L
Sedimentation and Detention Pond A:	April 2, 2024	137 mg/L
Sedimentation and Detention Pond A:	May 8, 2024	357 mg/L
Sedimentation and Detention Pond 1:	April 2, 2024	122 mg/L
Sedimentation and Detention Pond 1:	May 8, 2024	149 mg/L

    Total suspended solids in the sedimentation ponds were caused by heavy precipitation events falling on saturated ground increasing the opportunity for runoff during or near the time of the sample collection.

  - The benchmark concentration for pH at the sedimentation ponds (9.0 standard units [SU]) was exceeded as follows:

Sedimentation and Detention Pond 2:	June 4, 2024	9.39 SU

    Levels of pH in the sedimentation ponds are influenced by the amount of flow through the ponds and the presence of algae. The water being clear can support algae growth; thus, making the water more alkaline. DOE believes that the higher pH measurements in the ponds are primarily due to algae.

- **Seep Inspections** - Quarterly seep inspections were completed and none were identified to sample as described in the OSWDF PSVP.

3.1.4 Problems Encountered and Resolutions

- On November 15, 2023, inside the future OSWDF Cell 7 footprint, a project worker was backing a nearly full off-road John Deere 310E articulating water truck. The project worker

was spraying water on an area for soil moisture conditioning and mixing when the left rear tire of the truck contacted a small pile of soil causing the tire to lift and the rear axle to tilt. When the project worker felt this lifting, they stopped backing and shifted into drive to move forward. At this point the rear water tank section began to slowly roll over. As the water tank section rolled-over to the right, the cab section fell to the left. The water tank section came to rest lower on the access ramp adjacent to the soil pile, while the cab rolled on relatively level ground at the edge of the soil mixing work platform at the top of the ramp. A Fact-Finding meeting was held and a Hoisting and Rigging Lift Plan was developed for righting the truck. OSWDF Fleet Management and the equipment vendor inspected the truck to determine the extent of the damages. The assessment concluded that the damages were relatively minor in nature. The only fluid other than water that was observed leaking was a slow drip of hydraulic oil. An absorbent pad was immediately placed under the drip at the time of the incident.

- Water was noted under the bare liner system during the activities near the IMTA channel at the inlet of Leachate Runoff Pipe 703. The liner consists of a three-layer GML system. The soil above the primary GML (GML bottom layer) was noted to be saturated. A preliminary investigation was performed, and further investigation, including liner testing, will be performed on the IMTA channel to determine the final remedy. The remedy may include removal and rework of GML and soil.

- In accordance with the Section 4.4, *Management of Unexpected Conditions*, of the *Waste Acceptance Criteria Implementation Plan for the On-site Waste Disposal Facility at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0728&D3) (WAC Implementation Plan), DOE must provide notification to Ohio EPA of any anomalies detected at the OSWDF. On June 24, 2024, OSWDF in-cell personnel began to remove the outer layer of wrapping from the transite panels DC-333T3A-240618-001 package/bundle. Within the wrapped package/bundle of transite, a steel pallet that was used to transfer the panels to the OSWDF needed to be removed and placed in a Type 2 grid. The load had been moved up to Cell 4 Grid E-5 on June 18, 2024, and staged for placement. The load had not been finally placed in accordance with the approved waste placement plan for the Type 3 transite. When the OSWDF personnel removed a portion of the plastic from the load, two wooden pallets were discovered inside the original wrapping on the bundles that had been banded to the transite panels. The X-333 Process Building transite transfer had been identified as Type 3 debris by the waste generator but notification was not provided of any Type 4 material transferred with the waste. This constituted a Tier 1 anomalous condition since the Generator Waste Management Plan did not identify Type 4 waste as part of the waste generator's transfer profile. The load has been removed from the disposal grid and is being returned to the X-333 Process Building project for resolution. The double wrapping is intact around the transite and it was verified by the waste generator that fixative had been applied to the transite panels before the transfer occurred. Ohio EPA was notified verbally of the anomaly during the weekly visit to OSWDF on June 25, 2024, as stated above.

- In accordance with the Section 7.2.2, *Notifications*, of the OSWDF PSVP, DOE must provide notification of any statistically significant change to Ohio EPA.
  - During the sampling events for groundwater monitoring well X780-C08-17B, in the third and fourth quarters of CY 2023, it was determined that the Shewart standardized mean (Zi) for iron and ammonia exceeded its Shewart control limit. As discussed in the teleconference between Ohio EPA and DOE on February 27, 2024, DOE believes these statistical exceedances are not due to a release from the OSWDF to groundwater.

- On June 20, 2024, DOE provided the *Statistically Significant Change of an Indicator Parameter at the On-site Waste Disposal Facility, Portsmouth Gaseous Diffusion Plant* (PPPO-03-10028113-24) letter notification to Ohio EPA. During the sampling events for groundwater monitoring well X780-C08-17B, in the second, third, and fourth quarters of CY 2023, and the first quarter of CY 2024 it was determined that the Shewart standardized mean (Zi) for iron exceeded its Shewart control limit, and ammonia was exceeded in the third and fourth quarters of CY 2023, and the first quarter of CY 2024. DOE believes these exceedances are not thought to be statistically significant evidence of contamination in this well.
- On August 19, 2024, DOE provided the *Statistically Significant Change of an Indicator Parameter at the On-site Waste Disposal Facility, Portsmouth Gaseous Diffusion Plant* (PPPO-03-10028924-24) letter notification to Ohio EPA. During the sampling events for groundwater monitoring well X780-C08-17B, in the second, third, and fourth quarters of CY 2023, and the first and second quarters of CY 2024, it was determined that the Shewart standardized mean (Zi) for iron exceeded its Shewart control limit, and ammonia was exceeded in the third and fourth quarters of CY 2023, and the first and second quarters of CY 2024.
- On July 31, 2024, a conference call was held between DOE, DOE's D&D Contractor, and Ohio EPA to discuss the results and path forward.
- On August 28, 2024, DOE submitted the *Summary of Conference Call with the U.S. Department of Energy and Ohio Environmental Protection Agency on July 31, 2024, Discussing X780-C08-17B and X780-C08-17BA Proposed Path Forward* (PPPO-03-10028969-24) letter to Ohio EPA. In the summary letter, DOE requested to continue to monitor both X780-C08-17B and X780-C08-17BA over the next 12 months. During this monitoring period, DOE will continue to sample, analyze, validate and statistically evaluate the data; however, DOE requested that the formal requirement to submit statistical exceedance notifications for X780-C08-17B is postponed for the 12-month period. DOE will continue to keep Ohio EPA apprised of the groundwater monitoring well status via emails and in the DFF&O Quarterly Progress Reports. After the 12-month monitoring period, DOE will evaluate if the data for these monitoring wells have continued to align with the other OSWDF Berea monitoring wells and discuss options for a path forward that may include completing a statistical re-baseline of X-780-C08-17B.
- On September 27, 2024, Ohio EPA provided concurrence on this approach to DOE.

- On August 28, 2024, a fire occurred within the future Cell 2 footprint while performing electrofusion welding of a coupling to the existing LDS piping stub-out. The fire was extinguished quickly utilizing the fire extinguisher that was staged at the work location and by shoveling drainage aggregate onto the area to smother the flames. An area of approximately 5 ft by 8 ft was damaged. The underlying geosynthetic clay liner and secondary geomembrane liner were inspected and replaced, as well as the overlay of geotextile cushion.

3.1.5 Summary of Daily Reports, Inspection Reports, and Sampling Data

Air monitoring samples supporting the OSWDF construction and operations projects were collected in accordance with the OSWDF PSVP. At the OSWDF project, DOE collected weekly VOC samples, weekly metals samples, and monthly PCB samples at seven project locations. Filters for radiological particulate were collected weekly and composited into one monthly sample at seven project locations. Particulate matter 10 micrometers or less in diameter (PM_{10}) data and particulate matter 2.5 micrometers or less in diameter ($PM_{2.5}$) was monitored at two project locations and one DOE-Ohio EPA co-located station (A50). No exceedances of medium

or high action levels have been identified for VOCs, PCBs, radionuclides, metals or particulate matter during FY 2024.

3.1.6 Summary of Actions Taken to Achieve Clean-up and Performance Standards

No activities to report during FY 2024.

3.2 5-UNIT GROUNDWATER PLUME EXCAVATION PROJECT

3.2.1 Description of Work Performed

Field work continued at the 5-Unit Groundwater Plume Area in accordance with the *5-Unit Groundwater Plume Area Excavation Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0868&D3) (5-Unit Excavation Work Plan). Activities performed in FY 2024 included:

- Completed conditioning the stockpiled X-231A Oil Biodegradation Plot soils with Calciment™.
- Completed transferring the stockpiled X-231A Oil Biodegradation Plot soils to the OSWDF.
- Completed down-posting the former X-231A/B Oil Biodegradation Plot areas to a non-radiological area.
- Completed the relocation of the tarping stands, conex boxes, and miscellaneous equipment in preparation for 5-Unit Groundwater Plume Area Phase 5 and Phase 6 field activities.
- Completed construction of the road crossing the former X-231B Oil Biodegradation Plot area to support backfilling the former X-231A/B Oil Biodegradation Plots.
- Completed installation of a temporary access road, infrastructure moves, and relocation of the field trailers in support of the 5-Unit Groundwater Plume Area Phase 5 and Phase 6 work.
- Began backfilling the X-231A Oil Biodegradation Plot with 5-Unit Groundwater Plume Area Phase 5 overburden soils, generated as part of the X-626 RCW Complex At- and Below-grade Demolition project (a total of approximately 218,000 cubic yards backfilled in FY 2024).
- Began excavating Phase 5 impacted soils, conditioned as necessary, and transferred as engineered fill to the OSWDF.
- Began excavation of the Fifth Street debris and transferred to the OSWDF.
- Completed installation and development of the excavation piezometers and installation of the inclinometers associated with the 5-Unit Groundwater Plume Area Phase 5 excavation to monitor the dewatering progress/slope stability.
- Completed installation of the earthen water detention berm, liner, and conveyance system across the X-326 Process Building Slab (X-326 Slab), approximately 745 ft north from the southern end, in support of the 5-Unit Groundwater Plume Area Phase 5 and Phase 6 work. The water detention berm, including a liner, was constructed on top of the X-326 Slab to divide the northern section from the southern section.
- Completed construction of the protective layer on the X-326 Slab to support the upcoming concrete crushing operation north of the berm to support Phase 6 work.
- Completed core drilling of 20 locations and collection of 17 of the 20 soil samples associated with Phase 6 southwestern portion of the X-326 Slab per the 5-Unit Excavation Work Plan.
- Continued operation of the 2 million-gallon (2M-gallon) tank for solids settling as part of the water treatment system.
- Continued pumping and treating water from the excavated area through the X-622-1 Modular Treatment System (MTS)/D-Train.

- Began replacing the pump skid while operating a temporary gas-powered pump and continued pumping and treating water from the excavated area through the X-622-1 MTS/D-Train.
- Continued collection of weekly water levels and air monitoring samples associated with the 5-Unit Groundwater Plume Area excavations.

3.2.2 Design Changes During Construction

The following FCNs were submitted to Ohio EPA in accordance with Section 3.10 of the 5-Unit Excavation Work Plan, *Design Change and Field Change Notices*.

- On October 3, 2023, Ohio EPA provided comments on the *Field Change Notice 03 to the 5-Unit Groundwater Plume Area Excavation Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (Installation of Shoring)* (FBP-ER-EXPN-BG-PLN-0003-R9-03) (FCN 03 Installation of Shoring) to DOE. The FCN 03 Installation of Shoring was generated in order to allow an alternative and safer wedge excavation and backfilling procedure to be utilized. The wedge excavation and backfilling procedure reduced the number of wall anchors required at the middle and lower elevations of the sheet pile wall as originally designed. This FCN also allowed for the installation of a grouted anchor (pre-drilled hole with rod grouted in place) instead of a helical anchor (rod with screw auger flighting), and also provided the option to leave the sheet pile wall in place.
  - On October 18, 2023, a meeting was held between, Ohio EPA, DOE, and DOE's D&D Contractor to discuss Ohio EPA's comments.
  - On November 2, 2023, DOE provided a response to Ohio EPA's comments to Ohio EPA.
  - On November 9, 2023, Ohio EPA provided concurrence on the FCN 03 Installation of Shoring to DOE.

- On July 24, 2024, DOE submitted *Field Change Notice 04 to the 5-Unit Groundwater Plume Area Excavation Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (FBP-ER-EXPN-BG-PLN-0003-R9-04) (FCN 04 Phases 5/6 Modifications) to Ohio EPA. The FCN 04 Phases 5/6 Modifications was generated to incorporate the updated designs and figures, modified the sequence of events associate with Phase 5, and added additional details regarding the soil sampling associated with Phase 6.
  - On August 22, 2024, Ohio EPA provided a request for additional time for completion of the review of the FCN 04 Phases 5/6 Modifications to DOE.
  - On September 23, 2024, Ohio EPA provided concurrence on the FCN 04 Phases 5/6 Modifications to DOE.

3.2.3 Summary of Samplings and Findings

- Air monitoring samples supporting the 5-Unit Groundwater Plume Area excavation project were collected in accordance with the *5-Unit Groundwater Plume Area Excavation Air Monitoring Plan*. At the 5-Unit Groundwater Plume Area excavation project, DOE collected weekly VOC samples at eight project locations, weekly samples for metals at one project location, and monthly PCB samples at one project location. Filters for radiological particulate were collected weekly and composited into one monthly sample at five project locations. PM_{10} and $PM_{2.5}$ were monitored at two project specific locations and one location shared with the X-326 Process Building demolition project. No exceedances of medium or high action levels have been identified for VOCs, PCBs, radionuclides, metals, or particulate matter during FY 2024.

- Sampling results for groundwater and surface water in the area of the 5-Unit Groundwater Plume, collected in accordance with the *Integrated Groundwater Monitoring Plan for the*

Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (DOE/PPPO/03-0032&D12) (IGWMP), following Ohio EPA approval, are included in the Annual Groundwater Monitoring Reports publicly available on the PPPO Environmental Geographic Analytical Spatial Information System (PEGASIS) website: https://pegasis.ports.pppo.gov/Pegasis/Reports.aspx.

3.2.4 Problems Encountered and Resolutions

A minor spill, approximately 11 gallons (below reportable quantities), of hydraulic fluid from an excavator occurred at approximately 1428 hours on September 10, 2024, by the loadout pedestal in the east loadout area of the 5-Unit Groundwater Plume Area excavation project. The spill was cleaned up using absorbent pads and granular oil absorbent materials under the excavator and the unit was wiped inside the engine compartment, the tracks, and under the bellypan. All of the soil under the excavator that contained hydraulic fluid and all of the generated absorbent waste was captured into six 6-mil plastic bags and then placed into two 55-gallon drums. The drums are currently stored at the CERCLA staging area pad south of the X-622-1 MTS, pending disposal in the OSWDF. Global positioning system (GPS) coordinates were collected for the on-site Geographic Information System (GIS) database.

3.3 PROCESS BUILDINGS

3.3.1 Description of Work Performed

X-326 Process Building Demolition Field Activities

- Field work that has been accomplished or is ongoing in FY 2024 at the X-326 Slab is in accordance with the *Above-Grade Demolition Design Plan for the X-326 Process Building and Associated Special Nuclear Material Monitoring Portals, Tie Lines, and Pipe Racks at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0888&D7) (X-326 Demolition Design Plan) and included the following activities:
  - Completed filling the remaining Auxiliary Control Room #4 basement and the four remaining lube oil pits with low-strength grout on October 23, 2023.
  - Completed cleaning/decontamination of excess project equipment for release back to vendors on May 14, 2024. The scope of work associated with the demolition of the above-grade portion of the X-326 Process Building was completed with the release of the project equipment to the vendors.
  - Completed cleaning and rinsing sections of the X-326 Slab using water trucks and sweepers to meet final as-left conditions as described in the X-326 Demolition Design Plan and completed application of fixative to entire surface of the slab.
  - Completed the general cleanup and removal of the debris generated from the slab cleaning activities.
  - Completed installation of the protective layer to be utilized for the size reduction activities associated with the Waste Consolidation Project on the X-326 Slab.
  - Began size reduction activities of miscellaneous PORTS debris associated with the Waste Consolidation Project and transferred to the OSWDF.
  - Continued collecting radiological PPE generated during the equipment decontamination activities and the size reduction activities associated with the Waste Consolidation Project and completed routine transfers of the PPE to the OSWDF.
  - Continued to manage sanitary waste staging and disposal for office and administrative areas of the X-326 C-Lot trailer complex.
  - Continued collecting air monitoring samples associated with the X-326 Slab project site, equipment decontamination activities, and size reduction field activities.
  - Continued inspecting and making repairs as needed to the water detention berm, liner, and conveyance system.

- Continued conducting housekeeping in work zones on a daily basis.

X-326 Process Building Demolition Field Work Completion Report

- On September 9, 2024, DOE met the Milestone to submit the draft *Field Work Completion Report for the Above Grade Demolition of the X-326 Process Building and Associated Special Nuclear Material Monitoring Portals, Tie Lines, and Pipe Racks at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-1138&D1) to Ohio EPA in accordance with the X-326 Demolition Design Plan.

X-330 Process Building Deactivation Field Activities

- Field work that has been accomplished or is ongoing in FY 2024 at the X-330 Process Building in FY 2024 is in accordance with the *Remedial Design/Remedial Action Work Plan and Remedial Design for the Process Buildings Deactivation at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio – Deactivation of X-326, X-330, X-333, X-111A, X-111B, X-232C1, X-232C2, X-232C3, X-232C4, and X-232C5* (DOE/PPPO/03-0665&D4) (Process Buildings Deactivation RD/RA Work Plan) and included the following activities:
  - Began sampling the PCB transformer mineral oil and lube oil in preparation for off-site shipment and disposal of the oils.
  - Began filling transformers with mineral oil for PCB treatment. Transformers were drained, re-drained, and absorbent added (8 of 33 were completed in FY 2024).
  - Began electrical air gapping of dry transformers (41 of 70 completed in FY 2024) and process motors (operations floor connections – 460 of 1,100 completed in FY 2024).
  - Continued ongoing hazardous abatement activities including:
    - Monitoring PCB collection systems
    - Removal of aerosol cans
    - Segregation of electronic waste
    - Lead acid battery recycling/acid recovery.
  - Continued waste containerization for disposition.
  - Continued maintenance on the storm sewer catch basins that collect roof runoff and the stormwater from the footprint of the X-330 Process Building.
  - Continued ambient air treatments on the X-330 Process Building cells in order to stabilize any deposit materials.
  - Conducted additional walkdowns to further review locations to house the X-330 Process Building Material Sizing Area (MSA) on the operations floor.
  - Continued air gapping lighting panels as part of preparation for the X-330 Process Building MSA installation.
  - Continued with the development of the design for the X-330 Process Building MSA on the operations floor.
  - Collected 26 concrete core samples for floor loading analyses in support of deactivation of the cell floor. Sampling resulted in an average concrete strength of 3,400 psi.
  - Continued revision of internal nuclear criticality safety procedures to allow for X-330 Process Building cells >1% assay to be ambient air treated in preparation for deactivation.
  - Continued with repairs of the elevator and refurbishment of overhead bridge cranes adding required safety features for upcoming deactivation work.
  - Continued work area preparation by replacing cell floor light bulbs.
  - Continued to restore the Fire Box Alarm System to full functioning status.
  - Transitioned equipment and tools from the X-333 Process Building project to the X-330 Process Building project for reuse during deactivation activities.
  - Performed specific Hazard Recognition Walkdowns throughout the X-330 Process

Building based on lessons learned from the deactivation activities from the X-326 and X-333 Process Buildings.
- Completed removal of 220 of 220 floor penetration hazards in FY 2024.
- Completed sample preparation and began sampling for beryllium on the X-330 cell floor (180 of 354 samples were collected in FY 2024 with all results less than quantifiable).
- Completed beryllium sampling of the cranes and elevated areas greater than 8 ft.
- Began disassembly and cleaning of legacy parts located in the X-330 Process Building (100 of 652 completed in FY 2024).
- Continued disassembly and cleaning of process gas equipment parts in preparation for nondestructive assay (NDA) measurements.
- Began walkdown and setup of interim purge auxiliary system panel removal for NDA access.
- Began excavation and repair of the high-pressure fire water (HPFW) lines around the X-330 Process Building.
- Began preparation for the X-330 roof overlay repair project.
- Continued surveillance, preventive maintenance, and general cleanup/housekeeping to eliminate trip/slip/fall hazards for the process building, the infrastructure, and the associated support structures as ongoing activities.

X-333 Process Building Deactivation Field Activities

- Field work that has been accomplished or is ongoing in FY 2024 at the X-333 Process Building in accordance with the Process Buildings Deactivation RD/RA Work Plan included the following activities:
  - Completed Waste Acceptance Organization (WAO) inspections of the X-333 Process Building deactivation debris (coolers and compressors) on the X-326 Slab and transferred to the OSWDF. The final transfer was completed on November 14, 2023.
  - Completed collecting air monitoring samples associated with the X-333 Process Building deactivation field activities on the X-326 Slab.
  - Completed disassembly of process gas piping and components in support of characterization of the building. Over 6,500 pieces of process gas piping were cleaned to below characterization criteria in FY 2024 to meet the OSWDF Waste Acceptance Criteria (WAC).
  - Completed disassembly and cleaning for various deactivation tasks and cleaned up the laydown area.
  - Completed moving debris, equipment, piping, and panels to support NDA sampling of process gas equipment and piping.
  - Completed maintenance of the Large Component Assay System (LCAS) in the X-333 Process Building in order to perform future NDA analysis of process gas equipment. The LCAS will be relocated to the new LCAS building outside of the X-345 SNM Storage Building.
  - Completed the NDA characterization of the X-333 Process Building on May 30, 2024.
  - Completed deactivation campaigns to consolidate waste in the X-333 Process Building.
  - Completed sampling/open and inspection efforts of containers in preparation for waste shipments.
  - Transitioned equipment from the X-333 Process Building to the X-330 Process Building for reuse for the deactivation activities.
  - Completed painting large interior G-17 valves (289 valves) for removal during demolition.
  - Completed removal of valves and pipes requiring removal prior to demolition.
  - Continued ongoing hazardous abatement activities including:

  - Monitoring PCB collection systems
  - Process cable system and steam system isolations
  - Removal of segregatable hazardous wastes and universal wastes including aerosol cans and electronic wastes
  - ACM abatement of the exterior thermal system insulation (TSI) piping
  - Draining oil from the bridge cranes
  - Neutralization of the chlorine trifluoride/fluorine systems
  - Isolation of the fluorine line.
- Continued utility isolations for the X-333 Process Building.
- Continued utility isolations, combustibles sweeps, and final WAC sweeps of the X-333 Process Building in preparation for cold and dark status.
- Continued rerouting utilities and alarms for the adjacent facilities.
- Cut and capped the HPFW line servicing the west and south side of the X-333 Process Building.
- Isolated the X-343 Feed Vaporization and Sampling Building firewater from the HPFW line and rerouted to the sanitary firewater system.
- Continued abatement of interior ACM on the cell floor, operations floor, including steam lines in the middle aisle, stairwells, and interfaces.
- Began abatement of non-friable mastics on isolation points for underground utility isolation.
- Began mobilization for the abatement of the ACM in the basement and tunnel cable trays.
- Continued to collect friable asbestos waste in cargo containers for on-site disposal.
- Continued surveillance, preventive maintenance, and general cleanup/housekeeping to eliminate trip/slip/fall hazards for the process building, the infrastructure, and the associated support structures as ongoing activities.

X-333 Process Building Demolition Design Plan

- On October 16, 2023, Ohio EPA provided a second notification of additional time needed for completion of the review of the *Above-Grade Demolition Design Plan for the X-333 Process Building and Associated Tie Lines at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0996&D1) (X-333 Demolition Design Plan) to DOE.
  - On October 25, 2023, Ohio EPA provided comments on the X-333 Demolition Design Plan to DOE.
  - On November 22, 2023, DOE provided a notification of additional time needed to respond to Ohio EPA comments on the X-333 Demolition Design Plan to Ohio EPA.
  - On December 7, 2023, DOE provided the revised X-333 Demolition Design Plan (DOE/PPPO/03-0996&D2) and the response to Ohio EPA comments to Ohio EPA.
  - On January 5, 2024, Ohio EPA provided a notification of additional time needed for completion of the review of the revised X-333 Demolition Design Plan) to DOE.
  - On February 6, 2024, Ohio EPA provided additional comments on the X-333 Demolition Design Plan to DOE.
  - On February 16, 2024, DOE provided the revised X-333 Demolition Design Plan (DOE/PPPO/03-0996&D3) and the response to Ohio EPA comments to Ohio EPA.
  - On February 23, 2024, Ohio EPA provided concurrence on the X-333 Demolition Design Plan to DOE.
  - On February 28, 2024, DOE provided the *U.S. Department of Energy Notice of Preparation to Proceed with Site Preparation Activities Associated with the Above-Grade Demolition Design Plan for the X-333 Process Building and Associated Tie Lines at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, to Ohio EPA.

X-333 Process Building Demolition Field Activities

- Field work began in FY 2024 at the X-333 Process Building in accordance with the X-333 Demolition Design Plan including the following activities:
  - Completed installation of the construction boundary fencing around the X-333 Process Building to demarcate work areas and installed signage.
  - Completed installation of two triple-wide field support trailers.
  - Completed the installation of exterior lighting to illuminate building for the demolition project.
  - Completed a radiological survey and released 2,072 liner feet of X-204-1 Railroad rail for beneficial reuse to the Southern Ohio Diversification Initiative (SODI) as part of the above-grade obstruction removal.
  - Completed well abandonment of nine groundwater monitoring wells (X333-01G, X333-02G, X333-03B, X333-08G, X701-29G, X705-04G, X705-05B, X705-06G, and X705-11B).
  - Began removal of the transite panels from the ventilation bump outs while using surfactants/fixatives. Transite panels are double-wrapped in 6-mil plastic and staged in the ACM posted area in preparation for disposal in the OSWDF.
  - Began separation and collection of the lead coated transite fasteners from the transite panels in preparation for off-site disposal.
  - Began removal of the metal panels from the north and south X-232C3 Tie-Line while using surfactants/fixatives on the ACM caulk joints.
  - Began installation of the power and communications infrastructure support for the demolition project around the X-333 Process Building.
  - Began above-grade obstruction removal of pipe racks and stanchions. Active utilities (two pipe racks) will remain until the isolation of the power and plant air servicing the Criticality Accident Alarm System (CAAS) has been completed.
  - Demolished the deactivated primary electrical supports (cable trays and racks) on the north side of the X-333 Process Building.
  - Demolished and downsized the Low Assay Withdrawal crane and associated concrete pad on the west side of the X-333 Process Building.
  - Began loading and transferring debris generated from the exterior demolition work to the OSWDF.
  - Began installation of silt fence and erosion control measures.
  - Began excavation for the installation of the water detention berm.

3.3.2 Changes in the RD/RA

Size Reduction of Non-Structural Deactivation Debris on the X-326 Process Building Slab

- On April 8, 2024, DOE submitted the *Field Change Notices for Size Reduction of Non-Structural Deactivation Debris from Other Portsmouth Buildings and Areas at the X-326 Process Building Slab at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (Four FCNs), to Ohio EPA. These FCNs support additional debris size reduction on the X-326 Process Building Slab for miscellaneous non-structural debris from site buildings and outdoor areas that will be disposed of in the OSWDF. This submittal contained the following four FCNs:
  - FCN FBP-ER-RDRA-BG-PLN-0082-R10-02 to the X-326 Demolition Design Plan. This FCN was submitted in accordance with Section 5.1, "Demolition," of the X-326 Demolition Design Plan.
  - FCN FBP-ER-GEN-WD-PLN-0103-R5-02 to the *Wastewater Treatment Systems Performance Standard Verification Plan for the Portsmouth Gaseous Diffusion Plant,*

Piketon, Ohio, Phase I (A-, C-, and D-Train) (DOE/PPPO/03-0988&D3) (Phase I Wastewater PSVP). This FCN was submitted in accordance with Section C.8, *Nonconformances*, of the Phase I Wastewater PSVP.

- FCN FBP-ER-RDRA-BG-PLN-0075-R7-03 to the *Comprehensive Deactivation, Demolition, and Disposition Remedial Design/Remedial Action Work Plan for the Process Buildings and Complex Facilities Remedial Action Project and Remedial Design for Deactivation of Complex Facilities at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0758&D2) (Comprehensive Process Buildings RD/RA Work Plan). This FCN was submitted in accordance with Section 4.5, *Design Changes/Field Change Notices During Remedial Action*, of the Comprehensive Process Buildings RD/RA Work Plan.
- FCN FBP-ER-EECA-BG-PLN-0056-R6-01 to the *Removal Action Work Plan for Deactivation of Non-Time-Critical Removal Action Buildings and Structures at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0783&D2) (General Deactivation RAWP). This FCN was submitted in accordance with Section 4.5, *Design Changes and Field Change Notices*, of the General Deactivation RAWP.

- On May 3, 2024, Ohio EPA provided a request for additional time for completion of the review of the Four FCNs.
- On May 21, 2024, Ohio EPA provided concurrence on FCN FBP-ER-RDRA-BG-PLN-0082-R10-02 (X-326 Demolition Design Plan) and FCN FBP-ER-GEN-WD-PLN-0103-R5-02 (Phase I Wastewater PSVP). In addition, Ohio EPA provided a comment related to FCN FBP-ER-RDRA-BG-PLN-0075-R7-03 (Comprehensive Process Buildings RD/RA Work Plan) and FCN FBP-ER-EECA-BG-PLN-0056-R6-01 (General Deactivation RAWP) to DOE.
- On May 23, 2024, DOE provided a response to Ohio EPA's comment.
- On June 4, 2024, Ohio EPA provided concurrence on FCN FBP-ER-RDRA-BG-PLN-0075-R7-03 (Comprehensive Process Buildings RD/RA Work Plan) and FCN FBP-ER-EECA-BG-PLN-0056-R6-01 (General Deactivation RAWP).
- On June 5, 2024, DOE provided the updated X-326 Demolition Design Plan (DOE/PPPO/03-0888&D7) with FCN FBP-ER-RDRA-BG-PLN-0082-R10-02 incorporated to Ohio EPA.
- On June 5, 2024, DOE provided the updated Phase I Wastewater PSVP (DOE/PPPO/03-0988&D4) with FCN FBP ER-GEN-WD-PLN-0103-R5-02 incorporated to Ohio EPA.
- On June 24, 2024, DOE provided the updated Comprehensive Process Buildings RD/RA Work Plan (DOE/PPPO/03-0758&D2) with FCN FBP-ER-RDRA-BG-PLN-0075-R7-03 incorporated to Ohio EPA.
- On June 25, 2024, DOE provided the updated General Deactivation RAWP (DOE/PPPO/03-0783&D3) with FCN FBP-ER-EECA-BG-PLN-0056-R6-01 incorporated to Ohio EPA.

3.3.3 Summary of Samplings and Findings

- DOE continued to conduct sampling and analysis and other characterization activities for wastes generated by deactivation and being dispositioned off-site. Samples and field measurements collected as part of deactivation and demolition activities include NDA measurements, worker health and safety samples and measurements, and radiological contamination samples and measurements.

- DOE collected groundwater samples from five groundwater monitoring wells around the area of the X-326 Process Building in accordance with Section 5.2.3, *Pre-mobilization – Groundwater Monitoring,* of the X-326 Demolition Design Plan in semi-annually (typically

November and May). The samples are analyzed for total Resource Conservation and Recovery Act of 1976, as amended (RCRA) metals, PCBs, and radionuclides (total uranium, isotopic uranium, and technetium-99). The sampling data evaluations for FY 2024 show no increasing trends in monitoring parameters identified for the groundwater wells associated with the X-326 Process Building demolition activities.

- DOE collected groundwater samples from six groundwater monitoring wells around the area of the X-333 Process Building in accordance with Section 4, *Planned Demolition End-Point Configuration,* of the X-333 Demolition Design Plan semi-annually (typically November and May). The first sampling event was in May 2024 and samples were analyzed for total RCRA metals, PCBs, and radionuclides (total uranium, isotopic uranium, and technetium-99).

- Air monitoring samples supporting the X-326 Process Building demolition project were collected in accordance with the X-326 Demolition Design Plan. At the X-326 Process Building demolition project, DOE collected weekly air samples for metals, semimonthly air samples for PCBs, and radiological particulate air samples at eight project locations. Asbestos samples at seven project locations are collected weekly. Weekly VOC samples are collected at one project location. One of the radiological particulate samplers has filters collected weekly and composited into one monthly sample. At the remaining radiological particulate locations, filters were collected and analyzed on a weekly basis. PM_{10} and $PM_{2.5}$ were monitored at three project locations. No exceedances of medium or high action levels have been identified for VOCs, PCBs, radionuclides, metals, or particulate matter during FY 2024.

3.3.4 Problems Encountered and Resolutions

- Two areas on the western side of the X-326 slab were damaged during the size reduction activities of the X-333 Process Building deactivation debris. Approximately 12,000 sq ft of the slab (total for two areas) was repaired on November 16, 2023, using approximately 200 cy of low-strength grout. The GPS coordinates for the area were collected and the soil beneath the damaged portions will be sampled during the post slab removal soil sampling effort as described in Section 3, *Management of Air, Liquid, and Solid Waste Streams*, of Appendix D to the X-326 Demolition Design Plan. This soil sampling is planned and included in the future X-326 Slab and Below-Grade Demolition Design Plan.

- On January 22, 2024, three drums of batteries (nickel cadmium, lead acid, and lithium) that were generated during the X-326 Process Building deactivation project were identified. These drums were compliantly stored in the X-744L warehouse. These batteries had inadvertently been left out of the population of wastes required to be removed by the established Milestone date of January 21, 2023, as documented in *Table 4 – X-326 Process Building Deactivation Milestones* of the *X-326 Process Building Deactivation Field Work Completion Report at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio, Deactivation of X-326, X-111A, X-111B, X-232C2 and X-232C4* (DOE/PPPO/03-0853&D1).
  - On May 9, 2024, DOE provided the *Notification of Missed Milestone for Disposition of Deactivation Waste Generated by the X-326 Process Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* letter to Ohio EPA.
  - These batteries were shipped off site to USA Lamp and Ballast on May 15, 2024. Per Ohio EPA's request, the Straight Bill of Lading for the off-site shipment of the waste and the Waste/Material Generation Form were provided to Ohio EPA on June 4, 2024.

- A minor spill, approximately 2 gallons (below reportable quantities), of hydraulic fluid from an aerial lift occurred at approximately 0900 hours on April 3, 2024, near door #2 of the X-333 Process Building. The spill was cleaned up using absorbent materials that were placed in a plastic bag and transferred to Waste Management personnel at the X-752 Warehouse. GPS coordinates were collected for the on-site GIS database.

3.3.5 Summary of Daily Reports, Inspection Reports, and Sampling Data

- Weekly reports were generated according to internal work control documents and procedures documenting inspections of the water management system at the X-326 Slab.

- Real time air monitoring associated with the X-326 Process Building demolition project is publicly available on the website: https://portsdemo.com/. In addition, following Ohio EPA approval, groundwater and surface water sample results collected in accordance with the IGWMP are included in the Annual Groundwater Monitoring Reports publicly available on the PEGASIS website: https://pegasis.ports.pppo.gov/Pegasis/Reports.aspx.

3.3.6 Summary of Actions Taken to Achieve Clean-up and Performance Standards

No activities to report during FY 2024.

3.4 COMPLEX FACILITIES

3.4.1 Description of Work Performed

X-626 Recirculating Cooling Water Complex At-and Below-Grade Demolition

Field work was completed at the X-626 RCW Complex in accordance with the *Demolition Design Plan for At- and Below-Grade Components of the X-626 Recirculating Cooling Water Complex at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, (DOE/PPPO/03-1144&D2) (X-626 Demolition Design Plan) and included the following activities:

- Completed installation of the Excavation Piezometers to monitor the dewatering progress/slope stability.
- Completed excavation of overburden soils associated with obtaining access to the below-grade components of the X-626 RCW Complex for demolition.
- Completed the removal and size reduction of the X-626 RCW Complex at- and below-grade structures on June 26, 2024.
- Completed ACM abatement on the X-626 RCW pipeline, including cutting the pipe into 25-ft sections, and packaging and staging the X-626 RCW pipes for final disposition.
- Completed transfer of Type 2 waste (concrete and debris) to the OSWDF on July 10, 2024.
- Completed transfer of Type 5 waste (asbestos contaminated concrete) to the OSWDF on August 8, 2024.
- Completed disposition of the X-626 RCW pipes (ACM) off site on September 19, 2024.

5-Year Review Work Plan

- On September 24, 2024, DOE provided the *Draft Five-Year Review Work Plan for the Process Buildings Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* DOE/PPPO/03-1150&D1) to Ohio EPA.

3.4.2 Changes in the RD/RA

On May 21, 2024, DOE submitted the FCN FBP-ER-RDRA-BG-PLN-0107-R3-01 (FCN 01 - Final Design) to the X-626 Demolition Design Plan to Ohio EPA. The FCN 01 - Final Design provided the Final (100%) Design Drawings associated with Phases 5 and 6 of the 5-Unit Plume Excavation project. This FCN 01 Final Design was submitted in accordance with Section 4.5,

Design Changes/Field Change Notices During Remedial Action, of the Comprehensive Process Buildings RD/RA Work Plan.

- On June 24, 2024, Ohio EPA provided concurrence on the FCN 01 – Final Design to DOE.

3.4.3 Summary of Samplings and Findings

The Type 2 concrete debris from the X-626 RCW Complex at- and below-grade demolition was sampled for asbestos content. No ACM was found to be present.

3.4.4 Problems Encountered and Resolutions

- On June 10, 2024, an anomalous condition was encountered approximately 15 ft below ground surface on the east side of the X-626-1 Pump House as part of the excavation associated with the demolition of the X-626 RCW Complex at- and below-grade demolition. A broken drum containing a sand material was encountered. Industrial Hygiene personnel did not detect any elevated VOCs and the radiological meter was noted to be at background levels. The drum and materials were excavated, segregated and samples were collected of the material. The encountered materials were handled as described in Section 3.9, *Anomalous Conditions,* of the 5-Unit Excavation Work Plan.

- On June 17, 2024, an anomalous condition was encountered approximately 20 ft below ground surface on the south side of the X-626-1 Pump House as part of the excavation associated with the demolition of the X-626 RCW Complex at- and below-grade demolition. A broken drum containing a concrete material was encountered. Industrial Hygiene personnel did not detect any elevated VOCs and the radiological meter was noted to be at background levels. The drum and materials were excavated and segregated. Samples were collected of the material. The encountered materials were handled as described in Section 3.9, *Anomalous Conditions,* of the 5-Unit Excavation Work Plan.

3.4.5 Summary of Daily Reports

No activities to report during FY 2024.

3.5 WASTEWATER TREATMENT SYSTEMS

3.5.1 Description of Work Performed

- Continued operation of the X-790 ILTS/Modular Leachate Treatment System (MLTS)/A-Train and the X-622-1 MTS/C-Train/D-Train in FY 2024 in accordance with the Water Treatment Strategy Final (100%) Design Documents for X-790 ILTS/MLTS/A-Train/ X-622-1 MTS/C-Train/D-Train.

- On September 11, 2024, DOE initiated the changeout of ion exchange resin at X-622-1 MTS/C-train. The resin is used for uranium treatment.

- Installation of the X-790 ILTS Phase II continued in FY 2024, including the following activities:
  - Completed installation of utilities and access roads.
  - Completed the survey of the site layout.
  - Completed the procurement process for the ILTS mechanical, electrical, and piping construction package and issued authorization to mobilize.
  - Began mechanical, electrical, and piping work inside of the X-790 ILTS building including installing conduit and wiring, fire alarms, fiber cable, welding HDPE casing for the sewer line, and installing heaters.

- Completed installing transformers on the power poles and connected temporary power to the X-790 ILTS building.
- Completed installing the wall studs for the office areas inside the X-790 ILTS building and began installing drywall.
- Completed pouring concrete pads for equipment.
- Completed fabrication of the B-Train pressure vessels and received the electrical components and variable frequency drives.
- Received the B-Train transformers and panelboards.
- Completed preparation of the crane for offloading the B-Train equipment.
- Completed setting the multimedia filter tank skids.
- Completed the procurement process for the fabrication and construction of the 1 million-gallon (1M-gallon) storage tank.
- Completed installation of concrete forms and rebar for the foundation of the 1M-gallon storage tank.
- Completed the concrete pour, stripped the forms, backfilled, and completed grinding the concrete for the 1M-gallon storage tank foundation.
- Completed crane set up and erection of the 1M-gallon storage tank.
- Completed filling, testing, and the startup of the 1M-gallon storage tank.
- Completed the construction of the pipe supports and installation of the valves, paddles, lighting, conduit, thermal insulation, and heat trace supporting the 1M-gallon storage tank.
- Continued fabrication and received the skids for general tanks and pumps.
- Completed construction of the Clarifier Area Concrete Containment structure, including pouring the concrete floor and excavating for the clarifier pit.
- Completed excavating for the clarifier pit, installed rebar, concrete, handrails, and toe rails.
- Completed the procurement process and fabrication of the clarifier and thickener tanks and began site construction.
- Began installation of the potable water and fire water lines and testing of the water mains associated with the X-790 ILTS building.
- Completed construction of the equipment and transformer pads.
- Finalized start-up plans and operational procedures for B-Train.
- Continued development of start-up plans and operational procedures for A-Train.
- Completed procurement for multimedia, carbon and resin for B-Train and A-Train.
- Received delivery of multimedia, carbon and resin for B-Train.

Ohio EPA Inspections and Meetings

Ohio EPA personnel were on site to conduct field inspections and observed construction of the X-790 ILTS Phase II metal building along with DOE and DOE's D&D Contractor representatives on the following dates:

- April 16, 2024 – observed ILTS construction and equipment installation.
- May 2, 2024 – observed pouring the concrete foundation for the 1M-gallon storage tank installation.
- May 7, 2024 – observed foundation work progress for the 1M-gallon storage tank installation.
- May 21, 2024 – observed foundation work progress for the 1M-gallon storage tank installation and equipment pad construction in the X-790 ILTS building.
- May 28, 2024 – observed floor installation of the 1M-gallon storage tank.
- June 4, 2024 – observed wall panel ring installation of the 1M-gallon storage tank and office wall and equipment pad construction in the X-790 ILTS building.

- June 11, 2024 – observed wall panel ring installation of the 1M-gallon storage tank.
- June 18, 2024 – observed the ring jacking process of the wall panel ring installation for the 1M-gallon storage tank.
- June 25, 2024 – observed the construction progress of the 1M-gallon storage tank and the construction of the offices and equipment pads in the X-790 ILTS building.
- July 2, 2024 – observed the construction of the 1M-gallon tank and office construction in the X-790 ILTS building.
- September 3, 2024 – observed the construction completion progress of the 1M-gallon tank and construction and mechanical installation progress within the X-790 ILTS building.
- September 12, 2024 – observed the construction completion progress of the 1M-gallon tank.

3.5.2 Design Changes During Construction

No activities to report during FY 2024.

3.5.3 Summary of Samplings and Findings

Sampling results for the wastewater treatment systems (X-790 ILTS/MLTS/A-Train, X-622-1 MTS/C-Train, and X-622-1 MTS/D-Train) were summarized and reported one quarter behind the quarters included in the FY 2024 report. All samples were collected in accordance with the Phase I Wastewater PSVP.

Treatment of OSWDF leachate and impacted wastewaters occurred at the X-790 ILTS/MLTS/ A-Train. Treatment of wastewaters from demolition and waste consolidation activities conducted on the slab of the former X-326 Process Building occurred at the X-622-1 MTS/C-Train. Treatment of the wastewaters from soil excavation activities associated with the 5-Unit Groundwater Plume Area excavation and X-626 RCW at- and below-grade demolition project occurred at the X-622-1 MTS/D-Train. A total of 62,045,056 gallons of wastewater was treated by these three treatment trains during the period of July 1, 2023 through June 30, 2024, as presented below:

- X-790 ILTS/MLTS/A-Train: 11,033,900 gallons
- X-622-1 MTS/C-Train: 24,228,152 gallons
- X-622-1 MTS/D-Train: 26,783,044 gallons

A total of 2,680 samples (2,300 regular samples plus 380 field duplicates) were collected in accordance with the Phase I Wastewater PSVP during the period of July 1, 2023 through June 30, 2024. These samples are categorized as follows:

- Influent samples: 1,124 regular samples (plus 190 field duplicates)
- Effluent samples: 1,176 regular samples (plus 190 field duplicates)

There were two effluent results that exceeded the action levels developed as part of the Phase I Wastewater PSVP between July 1, 2023 through September 30, 2023. Action levels are not regulatory limits. Action levels were set relative to the respective effluent design estimates in order to have indicators that would trigger further internal review of performance.

- One silver result exceeded the action level at the X-790 ILTS/MLTS/A-Train during the period. No other silver results during the period or from October 2023 exceeded the action level. Thus, there is no negative trend with the control of silver in the effluent of X-790 ILTS/MLTS/A-Train.

- One chromium result exceeded the action level at the X-622-1 MTS/D-Train during the period. No other chromium results during the period or from October 2023 exceeded the action level. Thus, there is no negative trend with the control of chromium in the effluent of X-622-1 MTS/D-Train.

There was one effluent result that exceeded the action levels developed as part of the Phase I Wastewater PSVP between October 1, 2023 through December 31, 2023. Action levels are not regulatory limits. Action levels were set relative to the respective effluent design estimates in order to have indicators that would trigger further internal review of performance.

- One total suspended solids (TSS) result exceeded the action level at the X-622-1 MTS/D-Train during the period. No other TSS results during the period or from preliminary January and February 2024 TSS data exceeded the action level. Thus, there is no negative trend with the control of TSS in the effluent of X-622-1 MTS/D-Train.

There were six effluent results that were reported above the action levels developed as part of the Phase I Wastewater PSVP between January 1, 2024 and March 31, 2024. Action levels are not regulatory limits. Action levels were set relative to the respective effluent design estimates in order to have indicators that would trigger further internal review of performance.

- Five zinc results (one of which was a field duplicate) were reported above the action level at the X-622-1 MTS/C-Train during the period. All other metals in the X-622-1 MTS/C Train effluent were in control below their respective action levels during this same period.
- One nickel result was reported above the action level at the X-622-1 MTS/D-Train during the period. No other nickel results during the period, or from the April and May 2024 preliminary data, were reported above the action level. Thus, there is no negative trend with the control of nickel in the effluent of X-622-1 MTS/D-Train.

There were four effluent results that were reported above the action levels developed as part of the Phase I Wastewater PSVP between April 1, 2024 through June 30, 2024. Action levels are not regulatory limits. Action levels were set relative to the respective effluent design estimates in order to have indicators that would trigger further internal review of performance.

- Three zinc results (one of which was a field duplicate) were reported above the action level at the X-622-1 MTS/C-Train during the period. All other metals in the X-622-1 MTS/C-Train effluent were in control below their respective action levels during this same period. Zinc results were less than the X-622-1 MTS/C-Train action level during June 2024 and in the preliminary zinc results for July 2024. Tracking and trending of zinc results is ongoing and investigations will occur for elevated zinc levels when warranted.
- One chromium result was reported above the action level at the X-622-1 MTS/D-Train during the period; this result was reported during April 2024. No other chromium results during the period, or from the July 2024 preliminary data, were reported above the action level. Thus, there is no negative trend with the control of chromium in the effluent of X-622-1 MTS/D-Train.

The treated effluents from the three treatment trains (X-790 ILTS/MLTS/A-Train, X-622-1 MTS/C-Train, and X-622-1 MTS/D-Train) combine with cooling tower water blowdown from another site entity prior to discharging to the Scioto River via the National Pollutant Discharge Elimination System (NPDES) Outfall 004. There were no exceedances of the maximum established permit limits at NPDES Outfall 004 between July 1, 2023 and June 30, 2024.

3.5.4 Problems Encountered and Resolutions

No activities to report during FY 2024.

3.6 AIR MONITORING

3.6.1 Description of Work Performed

Ambient Air Monitoring Stations Meetings and Site Visits

- Ohio EPA, Ohio Department of Health (ODH), DOE, and DOE's D&D Contractor participated in bi-weekly technical calls in support of the voluntary PORTS Independent Radiological Air Monitoring Program. Twenty-six bi-weekly meetings were conducted in FY 2024. Topics discussed during these calls included field progress updates and activities; status of monitoring data sharing and postings; status of monitoring and analysis; laboratory detection limits; audit schedules; training for new Ohio EPA personnel; software upgrades for all Teledyne T640X monitors; replacement monitor alternatives; effects of the wildfires in West Virginia and Kentucky; equipment operation status, maintenance and cleaning; new equipment purchases; updates to the National Ambient Air Quality Standard; power outages and equipment operation status; repairs, maintenance, and cleaning; planning for a lessons learned presentation from the X-326 demolition project; biennial inspection of X-120H Met Tower; planning for the upcoming X-333 Process Building demolition air monitoring; and the significant storm event of September 27 – 29, 2024.

- One or two ODH representatives come to PORTS weekly to conduct sampling at the ODH Air Monitoring Stations located on-site and off-site. The air filters for the 19 ODH monitors co-located with DOE monitors at 18 monitoring stations for radiological particulate are collected and replaced weekly, and then composited into one monthly sample for off-site laboratory analyses.

- Ohio EPA personnel are on site frequently to support one every six days sampling frequency at the five Ohio EPA Air Monitoring Stations located on-site. In addition to continuous real-time PM_{10} and $PM_{2.5}$ monitoring, the Ohio EPA-DOE co-located monitors at these stations have metals, VOCs, and asbestos samples collected every six days according to the U.S. Environmental Protection Agency dictated sampling schedule for the year.

Data Sharing and Quality Assurance

- Shared hourly average PM_{10} and $PM_{2.5}$ monitoring data at the five stations between Ohio EPA and DOE daily by email.

- Completed monthly public posting of Ohio EPA's intermittent and continuous monitoring data by Ohio EPA on the agency's website.

- ODH posted the independent air monitoring data on the Innovate Ohio Platform on the following dates:
  - December 12, 2023 – Q3 CY 2023 (July, August, and September).
  - April 10, 2024 – Q4 CY 2023 (October, November, December).
  - June 11, 2024 – Q1 CY 2024 (January, February, March).
  - September 2024 – Q2 CY 2024 (April, May, June)

- Completed the joint public posting of ODH and DOE monitoring data using the PEGASIS on the following dates:
  - April 16, 2024 – Q4 CY2023 (October, November, December).
  - June 13, 2024 – Q1 CY2024 (January, February, March).

- Completed the joint public posting of Ohio EPA and DOE monitoring data using the PEGASIS on the following dates:
  - October 10, 2023 – June 2023
  - October 31, 2023 – July 2023
  - November 28, 2023 – August 2023
  - January 29, 2024 – September 2023
  - February 14, 2024 – October 2023
  - March 19, 2024 – November 2023.
  - May 1, 2024 – December 2023.
  - May 28, 2024 – January and February 2024.
  - July 9, 2024 – March 2024
  - September 5, 2024 – April 2024
  - September 17, 2024 – May 2024

- ODH representatives, as technical assistance to Ohio EPA, conduct monthly audits and yearly calibrations of the equipment while on-site during sampling days.

- Ohio EPA has auditors separate from sampling personnel that perform cleaning and quality checks of the equipment monthly. Twice a year, an independent Ohio EPA auditor audits both the Ohio EPA and DOE co-located equipment. DOE's D&D Contractor personnel participate and assist with these semi-annual audits. Ohio EPA conducted the semi-annual independent audits on Ohio EPA and DOE Total Suspended Particulate (TSP) and Teledyne monitors on October 10, 2023 and October 17, 2023, respectively. No significant issues were identified during the audits and the final reports for the DOE monitors were received on October 27, 2023.

- On May 13, 2024, Ohio EPA, Division of Air Pollution Control, provided a letter to Fluor-BWXT Portsmouth LLC (FBP). The letter documented a compliance inspection of FBP on March 5, 2024, and stated: "Ohio EPA found no violations of Ohio's Air Pollution Control laws, regulations or permit requirements during this inspection. Please be advised that this notice of compliance is only associated with those areas of the operations that were inspected or documentation reviewed and does not constitute a waiver of potential violations not discovered."

3.6.2 Summary of Samplings and Findings

- In addition to the project-specific monitoring at the X-326 Process Building demolition project and slab, OSWDF, and 5-Unit Plume Area excavation project, five air monitoring stations are located around PORTS where Ohio EPA and DOE conduct side-by-side, yet independent, monitoring of VOC, metals, asbestos, and $PM_{2.5/10}$. Eighteen radiological particulate monitoring stations are also located on and off-site where ODH and DOE conduct side-by-side, yet independent, monitoring of radionuclides. Data from these stations is publicly available on the PEGASIS website: https://pegasis.ports.pppo.gov/Pegasis/Reports.aspx.

3.6.3 Problems Encountered and Resolutions

- Between October 3 and 5, 2023, the F7 Feed was turned off while tree branches were cleared along the Right of Way for the F7 Feed, between PORTS and the well fields near Piketon.

The A-06 and A-08 monitors and the raw water booster pump to OSWDF were down due to this power outage of the F7 Feed.

- Elevated PM_{10} levels were noted at monitor A53 on October 3, 2023, due to nearby American Electrical Power Company, Inc. (AEP) construction activities (i.e., heavy concrete truck traffic on the gravel ramp/road near A53).

- Abnormally low PM values were reported by the A06 Teledyne monitor. A cleaning of the monitor was conducted between October 10 and 12, 2023, in order to bring the reported PM values back in the normal range in line with other monitors.

- The Ohio EPA Teledyne monitor located at station A-54 experienced an unexplained large spike of PM after normal work hours at approximately 19:00 on October 12, 2023. The weather consisted of a small amount of precipitation in the morning, with increased northwest wind in the afternoon.

- The Ohio EPA Teledyne monitor located at station A-50 experienced an unexplained large spike of PM after normal work hours at approximately 1700 on October 25, 2023. The weather consisted of a sunny, relatively warmer and drier day, with increased southwest wind in the afternoon.

- Abnormally low PM values were reported by Ohio EPA's Teledyne monitor at A-54. A cleaning of the monitor was conducted to bring the reported PM values back in the normal range in line with other monitors. The cleaning did not solve the issue and the unit was replaced in November 14, 2023.

- Issues were identified with Ohio EPA's Entech equipment at A-50, A-51, A-52, and A-53 the first quarter of FY 2024, and were repaired. DOE and DOE's D&D Contractor evaluated using Entech TM1200 to replace Entech 1900 when necessary. Ohio EPA has decided to gradually transition to Entech TM1200 for VOC sampling when any existing Entech 1900 needs to be replaced at the five monitoring stations. The Ohio EPA sampling crew attended in house training on the Entech TM1200.

- Detections of technetium-99 and uranium isotopes in September 2023 at offsite station A3 were noted by both DOE and ODH monitors. DOE and DOE's D&D Contractor evaluated data from the offsite station A3 and nearby monitors (i.e., A9, A15, A37, and A54) for CY 2015 through CY 2023.

- It was noted that water intrusion through the roof penetrations may be causing issues for the monitors located at A-54. Consolidated Analytical Systems inspected the roofs of A-54 and A-51 and determined the likely cause of recent leaks through the roof of A-54 was a blocked drainage due to caulking and resulting water accumulation on the roof. The A-51 roof was noted to be in good shape. DOE's D&D Contractor cleared the blockage. The roof of A-54 was successfully repaired by DOE's D&D Contractor with on-site support from Consolidated Analytical Systems on April 24 and 25, 2024. DOE's D&D Contractor also noticed a roof leak had occurred at air monitor A-52 and is planning for necessary repair similar to work conducted recently on the air monitor A-54 roof. Consolidated Analytical Systems inspected the A-52 roof and the repairs will be made.

- DOE reported a detection of neptunium-237 at project-specific monitoring station 5UA-A01 in October 2023. This was the only and first transuranic isotope detection in any ambient air or project-specific monitors during X-326 Process Building demolition since 2021 and X-333 Process Building equipment sizing on the X-326 Slab in 2023. Since transuranic chemicals of concern are only analyzed quarterly and this was the only detection to date, DOE's D&D Contractor evaluated X-326 Process Building and 5-Unit Plume Area project-specific uranium and technetium-99 data comparing with A-54 and A3 data to identify potential sources, duration, and extent. It was determined that all detected concentrations are several orders of magnitude lower than the nuclide-specific derived concentration standards, and concentrations drop very quickly from the X-326 project boundary. Relative concentrations of uranium isotopes indicate X-333 Process Building deactivation debris was likely the source of the elevated concentrations after August 2023. ODH stated that the single detected level of neptunium-237 on site is significantly lower than ODH's action/screening level and there is no detection off site. DOE incorporated monthly transuranic analysis in the X-333 Process Building project-specific air monitoring plan and further discussed the appropriate triggers to analyze transuranics on weekly iCAM filters with Ohio EPA and ODH. DOE held a meeting with Ohio EPA and ODH to review monitoring data collected during the X-326 Process Building demolition project and identify lessons learned.

- During the third quarter of FY 2024, Consolidated Analytical Systems evaluated and proposed an improvement hardness for an internal TSP connector between the motor and the controller to eliminate the frequent needs to manually separate the two sides of the connector during audit/calibration. This should reduce the number of electrical problems encountered in TSP monitors. DOE's D&D Contractor's Engineering Department agreed with the improvement. DOE's D&D Contractor will proceed to procure/install and test the hardness.

- Firmware upgrades on all DOE and Ohio EPA Teledyne T640X were completed on May 1, 2024. DOE and DOE's D&D Contractor compared and reported no significant differences observed in the PM monitoring data other than slight increases in PM_{10} values, smaller deltas between co-located monitors, and local conditions/standard temperature and pressure differences at lower range versus higher range.

- During the third quarter of FY 2024, ODH provided an update on the two neptunium-237 detections in the January 2024 data. One of the detections was confirmed to be from the on-site station A10. The second detection was from the off-site background station A37 and was highly suspect due to subsequently failed quality control in the laboratory. ODH pointed out that both results were well below the screening level for neptunium-237, based on a 0.1 mRem dose, and do not present a human health concern. ODH also stated that neptunium-237 was not detected in the recount of the A37 January 2024 sample. DOE's D&D Contractor reported no detection of any transuranic isotopes in January 2024.

- The X-230A-23 Station (off site at the intersection of McCorkle Road and Taylor Hollow Road, east of the OSWDF) was hit by a vehicle sometime between May 9, 2024 and May 13, 2024, and was out of service pending repair. On June 6, 2024, the station was relocated an additional two feet away from the roadway and turned 180 degrees to better protect the monitors from similar accidents and returned to service online.

- During the fourth quarter of FY 2024, an ant infestation in the "Spider Box" at monitoring station 5UA-A01 was discovered and delayed repair of the HiQ monitor. A new "Spider Box" was purchased and installed.

- DOE's D&D Contractor reported that the F7 power feed was down in mid-August in order to complete remaining utility poles repair and tree clearing works. This temporarily affected monitoring stations A-06 and A-08.

- The A-51 air conditioning unit shorted out on August 16, 2024, and reset on August 19, 2024. The unit was down again on August 22, 2024, due to a nonfunctional intake fan in the unit.

- During the fourth quarter of FY 2024, DOE's D&D Contractor proposed to replace two of the OSWDF project-specific TSP monitors (total suspended particulate matter) with Hi-Q monitors in the near future. The Hi-Q monitor can be used to monitor metals and seems to have higher reliability than the TSP monitor. Ohio EPA stated they have no objection to proposed replacements.

- As discussed in Section 3.1.4, smoke from a fire incident occurred in Cell 2 where an LDS pipe electrofusion coupling task was conducted just before noon on August 28, 2024, and was picked up by the A70 and A04 particulate matter monitors nearby.

- During the time period of September 27 – 29, 2024, PORTS experienced a significant accumulative rainfall event consisting of a 200-Year 1-Day Rainfall Event 6.32 inches, 200-Year 2-Day Rainfall Event 7.14 inches, and a 500-Year 3-Day Rainfall Event 8.06 inches.

4. PROGRESS ON ENGINEERING EVALUATION/COST ANALYSIS (EE/CA) ACTIVITIES

RESERVED

5. PROGRESS ON REMOVAL ACTION (RA) ACTIVITIES

This section describes progress on the various CERCLA D&D-related RA activities conducted under the D&D DFF&O at PORTS during FY 2024. As required by the D&D DFF&O, this report contains summaries of the work performed.

5.1 DESCRIPTION OF WORK PERFORMED

X-626-1 Recirculating Water Pump House and the X-626-2 Cooling Tower

- Waste management activities related to the X-626 RCW Complex completed in accordance with the *Removal Action Work Plan, X-626 Recirculating Cooling Water Complex, Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0168&D3) (X-626 RAWP). The final waste management activity was the off-site shipment of recyclable oils to Perma-Fix of Florida, Inc. Activities performed in FY 2024 included:
  - Completed shipping packaged deactivation and demolition wastes off site in accordance with the X-626 RAWP to the Nevada Nuclear Security Site in North Las Vegas, Nevada and to Diversified Scientific Services Inc., in Kingston, Tennessee.
  - On January 15, 2024, DOE met the Milestone to disposition waste within 180 days of completion of demobilization and receipt of all validated data (Milestone established as January 30, 2024), in accordance with the X-626 RAWP.

X-626 RCW Complex Removal Action Completion Report

- On March 18, 2024, DOE provided the *Removal Action Completion Report X-626 Recirculating Cooling Water Complex Portsmouth Gaseous Diffusion Plant* (DOE/PPPO/03-1156&D1) (X-626 RACR) to Ohio EPA. DOE's submittal met the Milestone to submit the Draft X-626 RACR within 150 days of completion of removal action on-site field work, waste disposition, and receipt of all validated data (Milestone established as June 13, 2024), in accordance with the X-626 RAWP.
  - On April 19, 2024, Ohio EPA provided concurrence on the *Removal Action Completion Report X-626 Recirculating Cooling Water Complex Portsmouth Gaseous Diffusion Plant* (DOE/PPPO/03-1156&D1) (X-626 RACR) to DOE.

5.2 CHANGES IN THE RA

No activities to report during FY 2024.

5.3 PROBLEMS ENCOUNTERED AND RESOLUTIONS

No activities to report during FY 2024.

5.4 SUMMARY OF ACTIONS TAKEN TO ACHIEVE CLEAN-UP AND PERFORMANCE STANDARDS

No activities to report during FY 2024.

5.5 SUMMARY OF DAILY REPORTS, INSPECTION REPORTS, AND SAMPLING DATA

Air monitoring, groundwater, and surface water associated with the X-626 RCW Complex demolition project was conducted as described for the 5-Unit Groundwater Plume Excavation project in Section 3.2.3 above. The project area for the X-626 RCW Complex demolition project is within the footprint of the 5-Unit Groundwater Plume Area excavation project.

6. PROGRESS ON CERCLA ACTIONS TO RESTORE NATURAL RESOURCES

This section describes progress of the ongoing CERCLA RD/RA (excavation) activities conducted under the NRD DFF&O at PORTS during FY 2024. As required by the NRD DFF&O, this report contains summaries of the work performed.

6.1 EXCAVATION AT THE X-740 GROUNDWATER PLUME

6.1.1 Description of Work Performed

- On November 22, 2023, DOE provided the *Results of Quarterly Sampling at the X-740 Groundwater Plume Area* letter (PPPO-03-10026348-24) to Ohio EPA.
  - On December 22, 2023, Ohio EPA provided concurrence to DOE. This letter also provided the condition that the additional monitoring wells, X740-13G, X740-25G, X740-28G, X740-29G, X740-30G, and X740-25B, should be sampled at a minimum of a five-year frequency until the long-term status of the X-740 plume monitoring is settled.

- Completed an additional round (fifth) of quarterly groundwater sampling in October 2023 in accordance with the *Field Work Completion Report for the X-740 Groundwater Plume Area Excavation at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-1106&D1) (X-740 FWCR).

6.1.2 Design Changes During Construction

No activities to report during FY 2024.

6.1.3 Summary of Samplings and Findings

- DOE collected groundwater samples from ten groundwater monitoring wells in the area of the X-740 Groundwater Plume in accordance with the X-740 FWCR on October 2, 3, and 4, 2023. Results from the fifth quarter sampling event were included in the *Results of Quarterly Sampling at the X-740 Groundwater Plume Area* (PPPO-03-10026348-24) letter.

- Sampling results for groundwater and surface water in the area of the X-740 Groundwater Plume, collected in accordance with the IGWMP, following Ohio EPA approval, are included in the Annual Groundwater Monitoring Reports publicly available on the PEGASIS website: https://pegasis.ports.pppo.gov/Pegasis/Reports.aspx.

6.2 X-231B OIL BIODEGRADATION PLOT EXCAVATION

6.2.1 Description of Work Performed

- Field work completed at the X-231B Oil Biodegradation Plot in accordance with the *X-231B Oil Biodegradation Plot Excavation Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0869&D2). Activities performed in FY 2024 included continued dewatering of the X-231B Oil Biodegradation Plot.

- On December 7, 2023, DOE provided the *X-231B Oil Biodegradation Plot Excavation Field Work Completion Report at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-1136&D1) (X-231B FWCR) to Ohio EPA.
  - On January 10, 2024, Ohio EPA provided a request for additional time for completion of the Ohio EPA review of the X-231B FWCR to DOE.
  - On February 6, 2024, Ohio EPA provided a second request for additional time for completion of the Ohio EPA review of the X-231B FWCR to DOE.
  - On February 23, 2024, Ohio EPA provided concurrence on the X-231B FWCR to DOE.

- On April 23, 2024, DOE provided the letter *Notification of Completion of Work that Resolves the Impacts to Natural Resources at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (PPPO-03-10027555-24) to Ohio EPA. In accordance with the Ohio EPA approved RD/RA Work Plans to perform the excavations, FWCRs were submitted to Ohio EPA confirming the necessary source removal was achieved for both the X-740 Groundwater Plume Area and the X-231B Oil Biodegradation Plot. The FWCRs for the X-740 Groundwater Plume Area excavation and the X-231B Oil Biodegradation Plot excavation received Ohio EPA concurrence on September 21, 2022 and February 23, 2024, respectively. Therefore, DOE has completed the work under paragraph 38 in *The July 30, 2018 Director's Final Findings and Orders for CERCLA Actions to Restore Natural Resources* (Ohio EPA 2018) (NRD DFF&O) that resolves the impacts to the State's natural resources at PORTS.

6.2.2 Design Changes During Construction

No activities to report during FY 2024.

6.2.3 Summary of Samplings and Findings

Sampling results for groundwater and surface water in the area of the X-231B Oil Biodegradation Plot, collected in accordance with the IGWMP, following Ohio EPA approval, are included in the Annual Groundwater Monitoring Reports publicly available on the PEGASIS website: https://pegasis.ports.pppo.gov/Pegasis/Reports.aspx.

6.3 PROBLEMS ENCOUNTERED AND RESOLUTIONS

No activities to report during FY 2024.

6.4 SUMMARY OF ACTIONS TAKEN TO ACHIEVE CLEAN-UP AND PERFORMANCE STANDARDS

No activities to report during FY 2024.

6.5 SUMMARY OF DAILY REPORTS, INSPECTION REPORTS, AND SAMPLING DATA

No activities to report during FY 2024.

7. CHANGES IN KEY PERSONNEL

No activities to report during FY 2024.

8. ADDITIONAL REPORT INFORMATION REQUESTED BY OHIO EPA

- DOE provided via electronic transmittal [K. Wiehle to G. Stutler], quarterly reports of the surface water radionuclide data at NPDES outfalls as discussed in the DOE Letter PPPO-03-10002527-20, *Operations and Maintenance Plan and National Discharge Elimination System Crosswalk and Proposal for Reporting Surface Water Radionuclide Sampling Results at National Discharge Elimination System Regulated Location*s, dated November 14, 2019. The data provided included the NPDES Regulated Outfalls results in compliance with DOE Order 458.1, *Radiation Protection of the Public and Environment* on the following dates:
  - December 7, 2023 - Third Quarter of CY 2023 (July – September 2023)
  - March 1, 2024 - Fourth Quarter of CY 2023 (October – December 2023)
  - June 4, 2024 - First Quarter of CY 2024 (January - March 2024)
  - August 23, 2024 - Second Quarter of CY 2024 (April - June 2024).

- On December 15, 2023, in accordance with Section VII, Paragraph 22 of the D&D DFF&O, DOE submitted the *Annual Report for Fiscal Year 2023 for The April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto (DFF&O)* (DOE/PPPO/03-1199&D1). The report provided information about progress on specific D&D activities at PORTS for FY 2023. In addition, this report provided information regarding the established Milestones for FY 2023.

- On August 21, 2024, DOE submitted to Ohio EPA the annual letter identifying all the FY 2024 through FY 2026 Milestones and identifying any Project Initiation Meetings (PIMs). No PIMs were identified for this time period. Included with the letter was the *Projected Milestones Activities for the Decontamination and Decommissioning and Environmental Programs at the Portsmouth Gaseous Diffusion Plant, for Fiscal Year 2024 through 2026* (DOE/PPPO/03-1255&D1) and the *Projected Non-enforceable Target Activities for the Decontamination and Decommissioning and Environmental Programs at the Portsmouth Gaseous Diffusion Plant, for Fiscal Year 2027* (DOE/PPPO/03-1256&D1).

9. OTHER D&D DFF&O ACTIVITIES

- On October 2, 2023, DOE provided the *Impacted Soil Disposition as Regulatory Category-4 Waste at the Portsmouth Gaseous Diffusion Plant, Piketon Ohio* letter (PPPO-03-10025772-24) (RC-4 Letter) to Ohio EPA. This RC-4 Letter requested Ohio EPA concurrence that the soils from a 12-Acre

Maintenance Action, the X-344A Vent Stack Project, and the Arsenic Area Maintenance Action, meet the definition of RC-4 waste per the Waste Disposition ROD and may be transferred to the OSWDF for disposal.
  - On October 31, 2023, Ohio EPA provided a request for additional time for completion of the Ohio EPA review of the RC-4 Letter to DOE.
  - On November 21, 2023, Ohio EPA provided concurrence on the RC-4 Letter to DOE.

- On February 15, 2024, DOE provided the *Addendum to the October 2, 2023 Letter – Impacted Soil Disposition as Regulatory Category-4 Waste at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* letter (PPPO-03-10026939 -24) (RC-4 Letter Addendum) to Ohio EPA. This RC-4 Letter Addendum provided the correctly sorted data table that was not included in the October 2, 2023 letter. The RC-4 Letter Addendum requested Ohio EPA concurrence that the soils from a 12-Acre Maintenance Action meets the definition of RC-4 waste per the Waste Disposition ROD and may be transferred to the OSWDF for disposal.
  - On March 11, 2024, Ohio EPA provided concurrence on the RC-4 Letter Addendum to DOE.

- DOE provided an update to Ohio EPA on the status of the Budget Request for FY 2025 on February 20, 2024. Section VIII, Funding, Paragraph 24, of the DFF&O requires DOE to provide Ohio EPA with available information on the proposed D&D Budget Request for PORTS by March 31st of each year. A follow-up letter was provided to Ohio EPA on March 6, 2024.

- On March 12, 2024, Ohio EPA provided a letter to DOE that stated no comments on the *Annual Report for Fiscal Year 2023 for The April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto (DFF&O)* (DOE/PPPO/03-1199&D1).

- The Ohio EPA Site Coordinator along with various Ohio EPA, and periodically ODH personnel, conducted multiple site visits each month accompanied by DOE and DOE's D&D Contractor. The site visits typically included inspections of the active project areas such as the X-326 Process Building demolition project and waste consolidation project on the X-326 Slab, the 5-Unit Groundwater Plume Area excavation projects, X-626 RCW Complex excavation/demolition, X-790 MLTS/ILTS construction, and the X-780 OSWDF construction and operations.

10. MILESTONE COMPLIANCE SCHEDULE

The following tables summarize the Milestones completed during FY 2024 and current Milestones that have been established and are consistent with Section VII, Paragraph 20.a, of the DFF&O.

Non-Time Critical Removal Actions (Reference DFF&O Table 1A)

Milestone Activity	Milestone Date	Milestone Completion Date
Disposition Waste (X-626 RCW Complex Removal Action – above-grade)	January 30, 2024	January 15, 2024
Submit draft Removal Action Completion Report (RACR) to Ohio EPA (X-626 RCW Complex – above-grade)	June 13, 2024	March 18, 2024

Remedial Action of Process/Complex Buildings/Structures (Reference DFF&O Table 1B)

Milestone Activity	Milestone Date	Milestone Completion Date
Submittal of draft Field Work Completion Report (FWCR) for the X-326 Process Building above-grade demolition field project	September 11, 2024	September 9, 2024
Submittal of the draft Field Work Completion Letter Report (FWCLR) to Ohio EPA (X-626 RCW Complex – at- and below-grade)	November 7, 2024	October 11, 2024
Shipment of project-generated waste identified for off-site disposition (X-626 RCW Complex – at- and below-grade)	July 10, 2025	September 19, 2024
Meet with Ohio EPA to discuss the requirements of the Process Building Project 5-Year Review	November 9, 2024	November 6, 2024
Submit the Process Building Project 5-Year Review Report	February 24, 2026	To be determined (TBD)

Site-wide Waste Disposition Remedial Action Project (Reference DFF&O Table 1C)

Milestone Activity	Milestone Date	Milestone Completion Date
Meet with Ohio EPA to discuss the requirements of the OSWDF 5-Year Review	February 25, 2025	TBD
Submit the OSWDF 5-Year Review Report	May 25, 2026	TBD

Subsequent Milestones (Reference DFF&O Table 1D)

Milestone	Milestone Date	Milestone Completion Date
No subsequent Milestones have been identified.	Not Applicable	Not Applicable

11. REFERENCES

Ohio EPA 2018. *The July 30, 2018 Director's Final Findings and Orders for CERCLA Actions to Restore Natural Resources*, Ohio Environmental Protection Agency, Columbus, OH. July 30.

Ohio EPA 2012. *The April 13, 2010 Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action, including the July 16, 2012 Modification thereto*, Ohio Environmental Protection Agency, Columbus, OH. July 16.