2. COMPLIANCE SUMMARY

2.1 SUMMARY

In 2019, DOE and/or the responsible DOE contractor (FBP and MCS) held permits for discharge of water to surface streams, air emission permits, and a permit for the storage of hazardous wastes. FBP is responsible for the National Pollutant Discharge Elimination System (NPDES) outfalls and air emission permits that were associated with the gaseous diffusion plant. MCS is responsible for activities associated with the DUF_6 Conversion Facility. Centrus is responsible for compliance activities directly associated with the American Centrifuge Plant (ACP).

FBP and MCS are responsible for preparing a number of reports for compliance with various applicable environmental regulations. These reports may include all or a subset of the following reports (for MCS): an annual groundwater monitoring report, a biennial hazardous waste report, an annual polychlorinated biphenyl (PCB) document log, an annual summary of radionuclide air emissions and the associated dose to the public from these emissions, annual or biennial reports of specified non-radiological air emissions, a monthly report of NPDES monitoring data, an annual hazardous chemical inventory, and an annual toxic chemical release inventory. Additional information on each of these reports is provided within this chapter.

DOE activities at PORTS are inspected regularly by the federal, state, and local agencies responsible for enforcing environmental regulations at PORTS. FBP received four Notices of Violation from Ohio EPA in 2019. Two of these Notices of Violation related to the operation of PORTS drinking water system. Both Notices of Violation were due to an exceedance of the secondary drinking water standard for manganese: 0.05 milligram per liter (mg/L). Secondary drinking water standards are non-health-based guidelines for managing the aesthetic qualities of drinking water (such as taste, color, or odor). The reported exceedance began in March and ended in April resulting in two Notices of Violation. The exceedance was not due to issues with water quality, but was caused by an inaccurate field measurement instrument. The instrument was replaced and manganese concentrations measured by the new instrument were confirmed by the PORTS on-site laboratory and an independent off-site analytical laboratory. All manganese concentrations were less than the secondary drinking water standard (0.05 mg/L). No further actions were required.

As a result of the Resource Conservation and Recovery Act (RCRA) inspection performed by Ohio EPA on June 25-26, 2019, FBP received a Notice of Violation due to failure to clean up oil that had been released to the environment in the X-530 Switchyard. During the inspection, Ohio EPA observed visible oil stains beneath one of the transformers.

To resolve the violation, FBP completed the following actions:

- removed and properly disposed the first nine inches of contaminated ballast (similar to gravel) from beneath the transformer,
- installed drip collection systems on transformers to collect inadvertent leaks and prevent future releases to the environment, and
- developed and implemented an inspection program to monitor for oil leaks in the switchyard and drip collection systems.

A complete cleanup of the X-530 Switchyard will be completed in the future as part of D&D of PORTS. No further actions were required.

FBP received a Notice of Violation from Ohio EPA in June 2019 related to the three issues pertaining to the NPDES permit. The issues and the responses from FBP are summarized below:

- **Exceedances of permit limitations for total suspended solids at multiple NPDES outfalls.** FBP reviewed the causes for the exceedances at each outfall. Maintenance to potentially mitigate future exceedances was identified and scheduled. Changes to operating procedures to mitigate discharges of suspended solids and additional control of upstream activities that could contribute to discharge of suspended solids were implemented. Excessive rainfall in the beginning of 2019 was also a contributing factor to the exceedances.

- **Violation of general permit conditions at the X-611B Lime Sludge Lagoon (FBP NPDES Outfall 005) that resulted in visible lime sludge deposits in Little Beaver Creek.** FBP implemented changes to the operating procedures for discharges from the X-611B Lime Sludge Lagoon to further control the discharge of suspended solids, which include lime sludge, from the lagoon. FBP is committed to reducing the lime sludge in the discharge to the extent possible given the operating requirements at the Lime Sludge Lagoon.

- **Failure to notify Ohio EPA of the significant change in the discharge from the X-611B Lime Sludge Lagoon after lime sludge deposits were discovered in Little Beaver Creek.** The lime sludge deposits were discovered on May 28, 2019 and reported to Ohio EPA on May 30, 2019 after a preliminary investigation of the field conditions, the cause of the residue, and the extent of the residue. FBP agreed to work to improve communications with the Ohio EPA Southeast District Office and to provide direct notification to the Southeast District Office of any conditions that may impact the quality of water being discharged in accordance with the NPDES permit.

2.2 COMPLIANCE INTRODUCTION

DOE is responsible for the D&D Program, Environmental Restoration Program, Waste Management Program, uranium operations, and maintenance of all facilities not leased to Centrus. FBP is responsible for air emission permits and NPDES outfalls associated with the former gaseous diffusion plant operations. MCS is responsible for activities associated with the DUF_6 Conversion Facility.

Centrus is responsible for compliance activities directly associated with the ACP including NPDES outfalls and management of wastes generated by their current operations.

DOE and/or DOE contractors (FBP and MCS) held two NPDES permits for discharge of water to surface streams, numerous air emission permits, and a RCRA Part B permit for the storage of hazardous wastes. Appendix A lists the active environmental permits and registrations held by DOE and/or DOE contractors (FBP and MCS) at the end of 2019.

Several federal, state, and local agencies are responsible for enforcing environmental regulations at PORTS. Primary regulatory agencies include Ohio EPA and the U.S. Environmental Protection Agency (U.S. EPA). These agencies issue permits, review compliance reports, conduct joint monitoring programs, inspect facilities and operations, and oversee compliance with applicable regulations.

DOE and/or DOE contractors conduct self-assessments to identify environmental issues and consult the regulatory agencies to identify the appropriate actions necessary to achieve and maintain compliance.

2.3 COMPLIANCE STATUS

This section discusses the DOE compliance status at PORTS with respect to environmental laws and regulations, DOE Orders, and Executive Orders.

2.3.1 Environmental Restoration and Waste Management

This section discusses the DOE compliance status at PORTS with Ohio EPA and U.S. EPA regulations pertaining to environmental restoration and waste management.

2.3.1.1 Comprehensive Environmental Response, Compensation, and Liability Act

PORTS is not on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List of sites. However, D&D of PORTS is proceeding in accordance with the D&D DFF&O and CERCLA. The D&D DFF&O describes the regulatory process for D&D of the gaseous diffusion process buildings and associated facilities that are no longer in use. Chapter 3, Section 3.2 of this report, provides additional information about the D&D Program.

Environmental remediation, or the cleanup of soil, groundwater and other environmental media contaminated by PORTS, has been conducted in accordance with the Consent Decree with the State of Ohio, issued on August 29, 1989 and the U.S. EPA Administrative Order by Consent, issued on September 29, 1989 (amended in 1994 and 1997 and terminated on February 13, 2017). Ohio EPA oversees environmental remediation activities at PORTS under the RCRA Corrective Action Program and CERCLA Program. Chapter 3, Section 3.3 of this report, provides additional information on the Environmental Restoration Program.

Section 103 of CERCLA requires notification to the National Response Center if hazardous substances are released to the environment in amounts greater than or equal to the reportable quantity. Reportable quantities are listed in CERCLA and vary depending on the type of hazardous substance released. During 2019, DOE contractors had no reportable quantity releases of hazardous substances subject to Section 103 notification requirements.

2.3.1.2 Emergency Planning and Community Right-To-Know Act

The Emergency Planning and Community Right-To-Know Act of 1986, also referred to as the Superfund Amendments and Reauthorization Act Title III, requires reporting of emergency planning information, hazardous chemical inventories, and releases to the environment. Emergency Planning and Community Right-To-Know Act reports are submitted to federal, state, and local authorities.

For emergency planning purposes, facilities must submit information on chemicals present on site above specified quantities (called the threshold planning quantity) to state and local authorities. When a new chemical is brought on site or increased to exceed the threshold planning quantity, information about the new chemical must be submitted to state and local authorities within three months.

Section 304 of the Emergency Planning and Community Right-To-Know Act requires reporting of off-site reportable quantity releases to state and local authorities**.** During 2019, FBP and MCS had no off-site reportable quantity releases subject to Section 304 reporting requirements.

The Hazardous Chemical Inventory Report includes the identity, location, storage information, and hazards of the chemicals present on site in amounts above the threshold planning quantities specified by U.S. EPA. This report is submitted annually to state and local authorities. Table 2.1 lists the chemicals

reported by the PORTS site, which included DOE contractors or lessees (FBP, PMA, MCS, and Centrus) for 2019:

Table 2.1. Chemicals reported in the Hazardous Chemical Inventory Report for 2019

1,2-propanediol	hydrogen fluoride	sodium chloride
aluminum oxide	lime calcium oxide	sodium hydroxide
aluminum oxide hydrate	lubricating oils	sulfuric acid
argon	methanol	triuranium octaoxide
asbestos	mineral oils	uranium oxide
carbon dioxide	nitric acid	uranium hexafluoride
citric acid	nitrogen	uranium metal
diesel fuel #2 (ultralow sulfur)	PCBs	uranium tetrafluoride
ethylene glycol	perfluoro-1,3-dimethylcyclohexane	
fluorotrichloromethane (CFC-11)	petroleum distillates	
gasoline	potassium hydroxide	

The Toxic Chemical Release Inventory is sent annually to U.S. EPA and Ohio EPA. This report details releases to the environment of specified chemicals when they are manufactured, processed, or otherwise used by the entire site in amounts that exceed threshold quantities specified by U.S. EPA. For this report, U.S. EPA defines a release to include on-site treatment, off-site disposal, and recycling conducted in accordance with regulations.

For 2019, DOE contractors reported the permitted release and/or off-site treatment of two chemicals:

- hydrogen fluoride: approximately 36 pounds (lbs) released to the air from the DUF_6 Conversion Facility; and

- nitrate compounds: approximately 34,000 lbs released to the Scioto River through permitted NPDES outfalls (from water treatment).

2.3.1.3 Resource Conservation and Recovery Act

RCRA regulates the generation, accumulation, storage, transportation, and disposal of solid and hazardous wastes. "Solid wastes," as defined by Ohio EPA, can be solids, liquids, sludges, or other materials. Hazardous wastes are a subset of solid wastes, and are designated as hazardous by Ohio EPA because of various chemical properties, including ignitability, corrosivity, reactivity, and toxicity.

Hazardous waste. DOE and FBP hold a permit to store hazardous waste at PORTS. The permit, often called a Part B Permit, was issued to DOE and the responsible DOE contractor in 1995, and renewed by Ohio EPA in 2001 and 2011. The permit governs the storage of hazardous waste and includes requirements for waste identification, inspections of storage areas and emergency equipment, emergency procedures, training requirements, and other information required by Ohio EPA.

Facilities such as PORTS that generate or store hazardous waste are required to submit a biennial report to Ohio EPA (in even-numbered years) that covers waste shipped in the previous odd-numbered year (i.e., waste shipped in even-numbered years no longer requires reporting). DOE submitted the report for calendar year 2019 to Ohio EPA in February 2020. This biennial report contains the name and address of each facility that waste was shipped to during the previous calendar year, the name and address of the transporter for each waste shipment, the description and quantity of each waste stream shipped off site, and a description of waste minimization efforts. Chapter 3, Section 3.4, Waste Management Program, provides additional information on wastes from DOE activities at PORTS that were recycled, treated, or disposed in 2019.

RCRA also requires groundwater monitoring at certain hazardous waste management units. As discussed in Chapter 6, groundwater monitoring requirements at PORTS have been integrated into one document, the *Integrated Groundwater Monitoring Plan* (DOE 2017c). Hazardous waste management units monitored in accordance with the *Integrated Groundwater Monitoring Plan* include the X-749 Contaminated Materials Disposal Facility (northern portion), X-231B Southwest Oil Biodegradation Plot (Quadrant I Groundwater Investigative [5-Unit] Area), X-701C Neutralization Pit (Quadrant II Groundwater Investigative [7-Unit] Area), X-701B Former Holding Pond, X-701B retention basins, X-744Y Waste Storage Yard (X-701B area), X-230J7 Holding Pond (X-701B area), X-616 Former Chromium Sludge Surface Impoundments, and X-735 RCRA Landfill (northern portion). Chapter 6 discusses the groundwater monitoring requirements for these units.

A groundwater report that summarizes the results of monitoring completed in accordance with the *Integrated Groundwater Monitoring Plan* is submitted annually to Ohio EPA (DOE 2020). Chapter 6 discusses these monitoring results for 2019.

MCS is regulated as a small quantity hazardous waste generator. Small quantity hazardous waste generators are subject to requirements for generation and accumulation of hazardous waste. These requirements include proper waste identification, use of appropriate containers, availability of emergency equipment, and specified shipment information.

Solid waste disposal facilities. Groundwater monitoring may be required at closed solid waste disposal facilities, such as landfills. Groundwater monitoring requirements for the closed X-734 Landfills, X-735 Industrial Solid Waste Landfill, and X-749A Classified Materials Disposal Facility are included in the *Integrated Groundwater Monitoring Plan* (DOE 2017c). Chapter 6 discusses the groundwater monitoring results for these units in 2019. There are no solid waste landfills currently operating at PORTS.

2.3.1.4 Federal Facility Compliance Act

Waste that is a mixture of RCRA hazardous waste and low-level radioactive waste (LLW) is currently stored at PORTS. RCRA hazardous waste is subject to Land Disposal Restrictions, which with limited exceptions do not allow the storage of hazardous waste for longer than one year. The Federal Facility Compliance Act, enacted by Congress in 1992, allows for the storage of mixed hazardous/LLW for longer than one year because treatment for this type of waste is not readily available. The Act also requires federal facilities to develop and submit site treatment plans for treatment of mixed wastes. On October 4, 1995, Ohio EPA issued a Director's Final Findings and Orders allowing the storage of mixed waste beyond one year and approving the proposed Site Treatment Plan. An annual update to the Site Treatment Plan is required by these Director's Final Findings and Orders. The annual update to the Site Treatment Plan for fiscal year 2019 was submitted to Ohio EPA in December 2019.

2.3.1.5 Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) regulates the use, storage, and disposal of PCBs, which are most commonly found in older electrical power system components, such as transformers and capacitors. The PCB transformers and capacitors that were present in the gaseous diffusion process buildings have been removed from service. Twelve pole-mounted PCB transformers were in service within the PORTS facility at the end of 2019.

An annual document log is prepared to meet TSCA regulatory requirements. The document log provides an inventory of PCB items in use, in storage as waste, and shipping/disposal information for PCB items disposed in 2019. The *2019 PCB Document Log for the Portsmouth Gaseous Diffusion Plant* was prepared in June 2020. Approximately 317 tons of PCB waste (gross weight) was generated in 2019. Approximately 247 tons of PCB waste (gross weight) was shipped for disposal in 2019. Waste

contaminated with PCBs was generated during 2019 through D&D activities in the process buildings and other areas.

A Uranium Enrichment TSCA Compliance Agreement between DOE and U.S. EPA, effective in 1992 and modified in 2017, addresses PCB management issues at PORTS including:

- the use, management, storage, and disposal of PCBs in ventilation duct gaskets and its associated collection and containment system;
- a negotiated schedule for clean-up, removal, and management of PCB wastes and contaminated items; and
- on-going air monitoring and management of PCB spill clean-ups.

Annual reports of progress made toward milestones specified in the TSCA Compliance Agreement are submitted to U.S. EPA. DOE was in compliance with the requirements and milestones of this TSCA Compliance Agreement during 2019.

The DUF_6 Conversion Facility stores and processes cylinders containing DUF_6 that may have paint containing greater than 50 parts per million (ppm) of PCBs present on the outside of the cylinders. The cylinders are stored in the X-745C, X-745E and X-745G Cylinder Storage Yards. The cylinders are stored in accordance with an agreement with U.S. EPA that includes monitoring of PCBs in surface water and sediment in drainage basins downstream from the cylinder storage yards. Chapter 5, Sections 5.4.2 and 5.5.2 provide the results of this surface water and sediment sampling, respectively.

2.3.1.6 Federal Insecticide, Fungicide, and Rodenticide Act

No restricted-use pesticides were used by DOE contractors in 2019.

2.3.2 Radiation Protection

This section discusses the DOE compliance status with DOE Orders pertaining to radiation protection and management of radioactive waste.

2.3.2.1 DOE Order 458.1, *Radiation Protection of the Public and the Environment*

The purpose of DOE Order 458.1 is to establish requirements to protect the public and the environment against undue risk from radiation associated with radiological activities conducted under the control of the DOE pursuant to the Atomic Energy Act of 1954, as amended. The objectives of DOE Order 458.1 are:

- conduct DOE radiological activities so that exposure to members of the public is maintained within the dose limits established in the Order and are as low as reasonably achievable, and
- ensure that DOE sites have the capabilities, consistent with the types of radiological activities conducted, to monitor routine and non-routine radiological releases and assess the radiation dose to members of the public.

DOE Order 458.1 requires that off-site radiation doses do not exceed 100 millirem (mrem)/year above background for all exposure pathways. Chapter 4 provides the dose calculations or monitoring results that demonstrate compliance with this DOE Order.

2.3.2.2 DOE Order 435.1, *Radioactive Waste Management*

The objective of DOE Order 435.1 is to ensure that all DOE radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment. DOE Order 435.1 applies

to all high-level waste, transuranic waste, and LLW, including the radioactive component of mixed waste for which DOE is responsible. Only LLW and mixed LLW are found at PORTS. Chapter 3, Section 3.4 provides additional information about the DOE Waste Management Program at PORTS.

An on-site waste disposal facility (OSWDF) has been selected per the record of decision for waste disposition for disposal of waste generated by D&D that meets criteria for on-site disposal (see Chapter 3, Section 3.2.2). The DOE Low-level Waste Disposal Facility Review Group (LFRG) has completed an independent review of the design and planned operation of the OSWDF as presented in a Performance Assessment and Composite Analysis and determined compliance with performance objectives in DOE Order 435.1. PORTS received a Disposal Authorization Statement (DAS) for design and construction of the OSWDF from the DOE Office of Site Restoration in 2015. This DAS requires completion of the construction, along with a comparison of the as-built facility to that reviewed, and satisfaction of the conditions in the DAS, as verified by the LFRG, prior to issuance of the DAS for Operations.

2.3.3 Air Quality and Protection

This section discusses the DOE compliance status with U.S. EPA and Ohio EPA regulations pertaining to air emissions (both radionuclides and non-radiological pollutants) and stratospheric ozone protection. Chapter 4, Figure 4.3 is a map of the PORTS ambient air monitoring locations.

2.3.3.1 Clean Air Act

FBP is responsible for numerous air emission sources associated with the former gaseous diffusion production facilities and support facilities. These sources, which included the boilers at the X-600 Steam Plant Complex (prior to demolition in 2013), emitted more than 100 tons per year of non-radiological air pollutants specified by Ohio EPA, which caused DOE to become a major source of air pollutants as defined in Title 40 of the *Code of Federal Regulations* (CFR) Part 70. Ohio EPA issued the final Title V Air Permit to FBP in 2014. The X-600 Steam Plant Complex has been demolished and is no longer operating.

FBP is required to submit quarterly Title V Deviation Reports that document any deviations from requirements of the Title V permit. These quarterly reports are summarized in an annual Title V Compliance Certification. In 2019, FBP did not have any deviations from the Title V Permit requirements.

Ohio EPA requires an annual report called the Ohio EPA Fee Emissions Report to report emissions of selected non-radiological air pollutants. U.S. EPA requires an annual report of greenhouse gas emissions. Chapter 5, Section 5.3.1 provides more information about these reports and the reported emissions for FBP in 2019.

In 2019, MCS was responsible for four permitted sources associated with the DUF_6 Conversion Facility. The Annual Permit Evaluation Report for the MCS air emission sources did not report any deviations from applicable emission limits or control requirements for the emission points from the facility's three process lines. There were three deviations from the limitation to maintain negative pressure for the heating, ventilation and air conditioning system for the DUF_6 Conversion Facility. These deviations occurred during periods of planned maintenance when the facility was not operating; therefore, there was no impact to the environment. Chapter 5, Section 5.3.1, provides more information about air emissions from MCS in 2019.

Appendix A lists the FBP and MCS air emission sources at PORTS. Radiological air emissions from the DOE air emission sources are discussed in Chapter 4 and non-radiological air emissions are discussed in Chapter 5.

2.3.3.2 Clean Air Act, Title VI, Stratospheric Ozone Protection

DOE has instituted a record-keeping system consisting of forms and labels to comply with the Title VI record-keeping and labeling requirements. These requirements affect all areas that use ozone-depleting substances, such as Freon. The service record and retrofit or retirement plan forms apply to units with a capacity of more than 50 lbs. The refrigeration equipment disposal log and associated appliance disposal label are used by all units regardless of capacity. The technicians who service equipment under DOE control are trained in accordance with U.S. EPA requirements.

2.3.3.3 National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart H, National Emission Standards for Emissions of Radionuclides Other Than Radon from DOE Facilities (40 CFR Part 61, Subpart H) requires DOE to submit an annual report for radiological emissions from DOE air emission sources.

In 2019, it was discovered that an error was made during preparation of the annual NESHAP report in the calculation of dose at the ambient air monitoring stations. The error involved the misapplication of the conversion factor converting concentration to dose. In 2014 and 2016, an additional error was found in compiling radiological emissions from the FBP point sources. The mistakes were also reported in the respective Annual Site Environmental Reports in the summaries of NESHAP information. Errata pages were prepared for the respective Annual Site Environmental Reports and Data Reports to correct the errors. The errata pages are available with the respective original report on the DOE Portsmouth/Paducah Project Office (PPPO) web site (energy.gov/pppo).

DOE contractors FBP and MCS were both responsible for radiological air emission sources. Chapter 4, Section 4.3.2, provides the radiological dose calculations from these emissions.

FBP sources. In 2019, FBP was responsible for numerous air emission sources including 1) continuously monitored vents in the X-330 and X-333 Process Buildings and the X-344A Uranium Hexafluoride Sampling Building; 2) room ventilation exhausts and/or pressure relief vents associated with the X-710 Technical Services Building, X-705 Decontamination Facility, and the XT-847 Glove Box; and 3) the X-622, X-623, X-624, and X-627 Groundwater Treatment Facilities.

Radiological emissions from the vents in the X-330 and X-333 Process Buildings and the X-344A Uranium Hexafluoride Sampling Building were measured by continuous monitoring, if in use. Emissions from the room ventilation exhausts and vents (if in use) were estimated based on operating data and U.S. EPA emission factors. Emissions from the groundwater treatment facilities were estimated based on quarterly influent/effluent sampling and quarterly throughput. Total radiological airborne emissions from FBP sources in 2019 were 0.08568 curie (Ci) (8.568E-02 Ci).

MCS sources. In 2019, MCS was responsible for emissions from the DUF_6 Conversion Facility. Emissions from the DUF_6 Conversion Facility were based on continuous monitoring of the conversion building stack. Total radiological airborne emissions from the DUF_6 Conversion Facility in 2019 were 0.0000478 Ci (4.78E-05 Ci).

2.3.4 Water Quality and Protection

This section discusses the DOE compliance status with U.S. EPA and Ohio EPA regulations pertaining to water quality and protection.

2.3.4.1 Clean Water Act

DOE contractors FBP and MCS held NPDES permits during 2019 that allowed discharges of water to surface streams. FBP was responsible for 18 monitoring locations identified in the FBP NPDES permit.

Nine outfalls discharge directly to surface water, six outfalls discharge to another outfall before leaving the site, and three other locations that are not outfalls were also monitored. Chapter 4, Section 4.3.4.1, and Chapter 5, Section 5.4.1.1, provide additional information on the FBP NPDES outfalls. Chapter 4, Figure 4.4 is a map of the PORTS NPDES outfalls.

The MCS NPDES permit allows the discharge of process wastewaters from the DUF_6 Conversion Facility. The MCS NPDES permit provides monitoring requirements for MCS Outfall 001 that are only effective when process wastewater is being discharged through the outfall. The permit also includes requirements for MCS Outfall 602, which are effective when process wastewater is being discharged to the sanitary sewer system that flows to the X-6619 Sewage Treatment Plant (FBP NPDES Outfall 003). No process wastewater was discharged through MCS Outfall 001 in 2019. Chapter 4, Section 4.3.4, and Chapter 5, Section 5.4.1.2, provide additional information on the MCS NPDES outfalls.

Data required to demonstrate compliance with the NPDES permits are submitted to Ohio EPA in monthly discharge monitoring reports (see Chapter 5, Section 5.4.1.1). Thirty permit limitations associated with the FBP NPDES permit were exceeded during 2019 (see Chapter 5, Section 5.4.1.1). The overall FBP NPDES compliance rate for 2019 was 98%. FBP received a Notice of Violation from Ohio EPA in June 2019 for violations of the NPDES permit. Section 2.4.2 provides more information about this Notice of Violation.

There were no exceedances of MCS permit limitations in 2019; therefore, the overall MCS NPDES compliance rate for 2019 was 100%.

Most of the FBP NPDES outfalls are also monitored for radionuclides (see Chapter 4, Section 4.3.4). The MCS outfalls are not monitored for radionuclides.

Stormwater runoff, water from precipitation that flows over land and is not absorbed into the ground, is regulated under the Clean Water Act because it can accumulate debris, chemicals, or other pollutants that affect water quality. Stormwater Pollution Prevention Plans are prepared for the site industrial activities under the FBP NPDES permit. Construction activities are covered by the NPDES Construction Stormwater General Permit. The Stormwater Pollution Prevention Plans include descriptions of the activities and the controls to be used to minimize impacts to stormwater runoff.

Stormwater management and drainage design will be part of site redevelopment after D&D and remediation are completed.

2.3.4.2 Safe Drinking Water Act

In 2019, FBP was responsible for operation of the PORTS drinking water system. Drinking water systems are regulated by the Safe Drinking Water Act, which sets requirements for water testing, treatment, and disinfection, as well as distribution system maintenance and operator training. The Safe Drinking Water Act also sets health-based standards for naturally-occurring and man-made contaminants that may be found in drinking water.

PORTS obtains its drinking water from two water supply well fields west of PORTS in the Scioto River Valley buried aquifer near the Scioto River. Ohio EPA provides the parameters and schedule for sampling the drinking water for various parameters, for example: nitrate, lead, disinfection byproducts, total coliform, and chlorine. Sampling results are submitted to Ohio EPA in a monthly report. Section 2.4.2 provides information about two Notices of Violation received by FBP related to operation of the PORTS drinking water system.

2.3.5 Other Environmental Statutes

This section discusses the DOE compliance status with other applicable environmental statutes and regulations including underground storage tank regulations and the Endangered Species Act.

2.3.5.1 Underground storage tank regulations

The Underground Storage Tank Program is managed in accordance with the Ohio State Fire Marshal's Bureau of Underground Storage Tank Regulations. Underground storage tanks in the former gaseous diffusion plant buildings and associated facilities are owned by DOE. In 2019, FBP was responsible for five tanks and Centrus was responsible for one tank. These tanks include five diesel fuel tanks ranging in size from 2500 to 20,000 gallons and a 20,000 gallon gasoline tank. The registrations for these tanks are renewed annually.

2.3.5.2 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires evaluation of the environmental impacts of activities at federal facilities and of activities funded with federal dollars.

DOE has a formal program dedicated to compliance pursuant to DOE Order 451.1B*, National Environmental Policy Act Compliance Program*. Restoration actions, waste management, enrichment facilities maintenance, and other activities are evaluated to determine the appropriate level of evaluation and documentation. No environmental assessments or environmental impact statements were completed during 2019.

Routine operation and maintenance activities are also evaluated to assess potential environmental impacts. Activities not regulated under CERCLA may be covered under a categorical exclusion or other NEPA determination as defined in the regulations. These activities are considered routine and have no significant individual or cumulative environmental impacts. DOE has implemented a policy to post online specific classes of categorical exclusions as found in 10 CFR Part 1021, Appendix B to Subpart D. Categorical exclusions for PORTS are posted on the DOE PPPO website (energy.gov/pppo).

2.3.5.3 Endangered Species Act

The Endangered Species Act of 1973, as amended, provides for the designation and protection of endangered and threatened wildlife and plants, and the habitat on which such species depend. When appropriate, formal consultations are made with the U.S. Fish and Wildlife Service and the Ohio Department of Natural Resources.

A study was conducted in 2013 to identify the potential presence of the federally-endangered Indiana bat (*Myotis sodalis*) and the northern long-eared bat (*Myotis septentrionalis*), in the northeastern area of PORTS that is the location for the OSWDF (see Chapter 3, Section 3.2.2). The study did not identify the presence of the federally-endangered Indiana bat in the study area. Both foraging and roosting activities were identified for the northern long-eared bat, which is listed as a threatened species. In 2015, the U.S. Fish and Wildlife Service issued a Biological Opinion that the OSWDF is not likely to jeopardize the continued existence of the northern long-eared bat.

An additional study was conducted in 2019 to assess the potential presence of the Indiana bat and the northern long-eared bat in areas where tree clearing was proposed. No Indiana bats and one northern long-eared bat were identified during the study. The U.S. Fish and Wildlife Service concurred with DOE in October 2019 that the tree-clearing activities, as proposed, were not likely to adversely affect the northern long-eared bat. Measures continue to be implemented during construction and operation of the OSWDF and other D&D activities to minimize potential impacts to bats.

2.3.5.4 National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA) is the primary law governing the protection of historic properties. NHPA reviews consider both architectural and archeological properties. Coordination and/or consultation with the State Historic Preservation Office and other stakeholders are made as a part of the reviews. The cultural resources of three broad time periods of occupation of the PORTS property have been assessed: the prehistoric era (occupation by Native Americans until approximately 1650), the historic era (occupation by Native Americans and early settlers from 1650 through 1952) and the DOE era (from 1952 to the present).

Fifty-four prehistoric archaeological sites have been identified on PORTS property. Each of these sites was investigated, and four of the sites included sufficient artifacts such as tools, earth ovens, and pottery to be determined eligible for inclusion on the National Register of Historic Places. One of the sites eligible for inclusion on the National Register of Historic Places was located in the northeast corner of PORTS in the support area for the OSWDF. DOE worked with the State Historic Preservation Office and Tribal Nations to develop a data recovery approach for this area so that artifacts and other information could be recovered from the area (approximately 1 acre) prior to construction activities. Field work, including hand excavation of selected areas, was completed in 2015. No significant artifacts were found. A technical report documenting the data recovery processes and results was submitted to the State Historic Preservation Office in 2017. A summary-level report intended for a general audience was submitted to the State Historic Preservation Office in 2019.

Sixty-one historic era sites have been identified on PORTS property. Most of these sites were farmstead/residential sites, and investigations of the farmstead/residential sites determined that the sites were not eligible for inclusion on the National Register of Historic Places. Two sites, the Holt Cemetery and Mount Gilead Church and Cemetery are treated as if they are eligible for the National Register.

DOE has worked with the State Historic Preservation Office, Advisory Council on Historic Preservation, Tribal Nations, and individual members of the public interested in historic preservation to determine how best to document the DOE era of site history, that is, the history associated with the buildings and other areas that are part of D&D. The NHPA review for site D&D was performed as a part of the CERCLA process. The PORTS Virtual Museum (portsvirtualmuseum.org) preserves photos, video, oral histories, and other information associated with operation, remediation, and D&D of PORTS. The records of decision for process buildings and waste disposition (see Chapter 3, Section 3.2) list the activities selected to preserve the history associated with the PORTS site.

The following activities selected to preserve the history of the PORTS site have been completed:

- a Comprehensive Summary Report summarizing all NHPA-related investigations (FBP 2014);
- a Historic Context Report that documents the history of operations and facilities at PORTS from 1952 through the end of the Cold War (DOE 2017e); and
- expansion of the PORTS virtual museum to include information on prehistoric activities.

Activities selected to preserve the history of the PORTS site and document ongoing activities are:

- collection and evaluation of items recovered from PORTS facilities for potential future display;
- public outreach to local school districts and others; and
- panoramic and aerial photographs taken at regular intervals.

2.3.5.5 Archaeological and Historic Preservation Act and Archaeological Resources Protection Act

The Archaeological and Historic Preservation Act and the Archaeological Resources Protection Act require the Secretary of the Department of Interior to report to Congress on various federal archaeological activities. The Archaeological Resources Protection Act requires federal land managers to provide archaeology program information to the Secretary of the Interior for this report; information for PORTS is included in the overall DOE headquarters report.

2.3.6 DOE Order 436.1 *Departmental Sustainability*

DOE Order 436.1, *Departmental Sustainability*, requires development and implementation of an Environmental Management System (EMS) in order to protect air, water, land, and other natural or cultural resources potentially impacted by DOE operations.

FBP serves as the coordinating contractor for EMS implementation among the DOE site contractors (FBP, PMA, and MCS). A report of progress in achieving specified EMS goals is submitted annually to DOE Headquarters. These EMS goal areas, specified in Executive Order 13963 (see Section 2.3.7.2), include objectives related to the following:

- reduction of greenhouse gas emissions,
- reduction of energy consumption and intensity in site buildings,
- increased use of clean or renewable energy,
- enhanced water use efficiency and management,
- fleet management to reduce petroleum use and/or increase alternative fuel/vehicle use,
- sustainable acquisition, and
- pollution prevention and waste reduction.

In 2019, the environmental scorecard prepared for DOE PORTS (FBP, PMA, and MCS) was green, which indicates that standards for EMS implementation have been met with at least 80% of the goal areas for fiscal year 2019 addressed in the EMS. Some of the EMS goal areas are not applicable to PORTS because the facility is not operating and is preparing for D&D.

Chapter 3, Section 3.5, provides information about the DOE Environmental Sustainability Program at PORTS.

2.3.7 Executive Orders

Executive Orders are issued by the President to various federal agencies, including DOE. This section discusses the DOE compliance status at PORTS with Executive Orders pertaining to the environment.

2.3.7.1 Executive Order 11988, *Floodplain Management,* and Executive Order 11990, *Protection of Wetlands*

Title 10 of the CFR Part 1022 establishes policy and procedures for compliance with Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*.

A site-wide wetland survey report was completed and submitted to the Corps of Engineers in 1996. The 1996 survey identified 41 jurisdictional wetlands and four non-jurisdictional wetlands totaling 34.36 acres at PORTS.

A wetland and stream assessment was completed in 2013 for the northeast area of PORTS where the OSWDF is being constructed. DOE is developing mitigation strategies for wetlands and streams that will be impacted by the construction of the OSWDF in accordance with CERCLA requirements.

2.3.7.2 Executive Order 13834, *Efficient Federal Operations*

Executive Order 13834, *Efficient Federal Operations*, prioritizes meeting energy and environmental statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment. Existing activities that are part of compliance with DOE Order 436.1 (see Section 2.3.6) and the DOE Environmental Sustainability Program at PORTS (see Chapter 3, Section 3.5) support this executive order. These existing activities include improving energy and water use efficiency; encouraging site-wide recycling and material reuse; and increasing the use of alternative fuel and alternative fuel vehicles.

Green and sustainable remediation is the abatement, cleanup, or use of methods to contain, remove, or destroy contaminants while seeking to minimize the environmental, economic, and social costs of the remediation. FBP is incorporating green and sustainable remediation into the D&D activities discussed in Chapter 3. Actions being taken to support green remediation include efficient movement of materials to reduce fuel usage, efforts to minimize water usage and control runoff, and recycling/reuse of materials.

2.4 OTHER MAJOR ENVIRONMENTAL ISSUES AND ACTIONS

This section summarizes environmental inspections of DOE activities at PORTS during 2019 and the results of these inspections.

2.4.1 Environmental Program Inspections

During 2019, six inspections of DOE activities at PORTS were conducted by federal, state, or local agencies. Table 2.2 lists these inspections.

Table 2.2. Environmental inspections of DOE activities at PORTS for 2019

Date	DOE contractor	Agency	Type	Notices of Violation
April 22	FBP	Ohio EPA	Closed solid waste units, interim remedial measures, and groundwater treatment facilities	None
June 25-26	FBP	Ohio EPA	RCRA compliance	See Section 2.4.2
August 19	MCS	U.S. EPA	Clean Water Act compliance	None
August 19-22	FBP	U.S. EPA	RCRA and Clean Water Act compliance	None
September 17	FBP	Ohio EPA/Pike County Health District	Closed solid waste landfills (X-735, X-749, X-749A)	None
December 2 & 10	MCS	Ohio EPA	RCRA compliance	None

2.4.2 Notices of Violation

As a result of the RCRA inspection performed by Ohio EPA on June 25-26, 2019, FBP received a Notice of Violation due to failure to clean up oil that had been released to the environment in the X-530 Switchyard. During the inspection, Ohio EPA observed visible oil stains beneath one of the transformers.

To resolve the violation, FBP completed the following actions:

- removed and properly disposed the first nine inches of contaminated material called ballast (similar to gravel) from beneath the transformer,

- installed drip collection systems on transformers to collect inadvertent leaks and prevent future releases to the environment, and

- developed and implemented an inspection program to monitor for oil leaks in the switchyard and drip collection systems.

A complete cleanup of the X-530 Switchyard will be completed in the future as part of D&D of PORTS. No further actions were required.

FBP received a Notice of Violation from Ohio EPA in June 2019 related to the three issues pertaining to the NPDES permit. The issues and the responses from FBP are summarized below:

- **Exceedances of permit limitations for total suspended solids at multiple NPDES outfalls.** FBP reviewed the causes for the exceedances at each outfall. Maintenance to potentially mitigate future exceedances was identified and scheduled. Changes to operating procedures to mitigate discharges of suspended solids and additional control of upstream activities that could contribute to discharge of suspended solids were implemented. Excessive rainfall in the beginning of 2019 was also a contributing factor to the exceedances.

- **Violation of general permit conditions at the X-611B Lime Sludge Lagoon (FBP NPDES Outfall 005) that resulted in visible lime sludge deposits in Little Beaver Creek.** FBP implemented changes to the operating procedures for discharges from the X-611B Lime Sludge Lagoon to further control the discharge of suspended solids, which include lime sludge, from the lagoon. FBP is committed to reducing the lime sludge in the discharge to the extent possible given the operating requirements at the Lime Sludge Lagoon.

- **Failure to notify Ohio EPA of the significant change in the discharge from the X-611B Lime Sludge Lagoon after lime sludge deposits were discovered in Little Beaver Creek.** The lime sludge deposits were discovered on May 28, 2019 and reported to Ohio EPA on May 30, 2019 after a preliminary investigation of the field conditions, the cause of the residue, and the extent of the residue. FBP agreed to work to improve communications with the Ohio EPA Southeast District Office and to provide direct notification to the Southeast District Office of any conditions that may impact the quality of water being discharged in accordance with the NPDES permit.

FBP received two Notices of Violation from Ohio EPA in 2019 related to the operation of PORTS drinking water system. Both Notices of Violation were due to an exceedance of the secondary drinking water standard for manganese: 0.05 mg/L. Secondary drinking water standards are non-health-based guidelines for managing the aesthetic quality of drinking water. The reported exceedance began in March and ended in April resulting in two Notices of Violation. The exceedance was not due to issues with water quality, but was caused by an inaccurate field measurement instrument. The instrument was replaced and manganese concentrations measured by the new instrument were confirmed by the PORTS

on-site laboratory and an independent off-site analytical laboratory. All manganese concentrations were less than the secondary drinking water standard (0.05 mg/L). No further actions were required.

2.5 UNPLANNED RELEASES

No unplanned releases from DOE activities at PORTS occurred in 2019.

2.6 SUMMARY OF PERMITS

Appendix A lists the permits held by DOE and/or DOE contractors in 2019.

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