

2. COMPLIANCE SUMMARY

2.1 SUMMARY

DOE and/or the responsible DOE contractor during 2011 (LPP, FBP, BWCS, or UDS) held permits for discharge of water to surface streams, air emission permits, and a permit for the storage of hazardous wastes. The National Pollutant Discharge Elimination System (NPDES) outfalls and numerous air emission permits that were associated with the gaseous diffusion plant were also transferred from USEC Government Services to FBP during 2011.

DOE contractors are responsible for preparing a number of reports for compliance with various applicable environmental regulations. These reports include an annual groundwater monitoring report, an annual 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, a biennial fee report of specified non-radiological air emissions, a monthly report of NPDES monitoring data, a quarterly radiological discharge monitoring report for NPDES outfalls, 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. DOE and/or DOE contractors received three Notices of Violation in 2011.

On April 6, 2011, Ohio EPA observed a release of used oil at the X-630 D&D project that was a violation of used oil storage regulations. In response to the release, FBP removed and disposed of absorbent materials saturated with oil and stained gravel in the area of the release. Absorbent material and straw was placed in or around the affected on-site drainage ditch and storm drain to catch any residual oil. Documentation of the cleanup was provided to Ohio EPA. In response, Ohio EPA stated that DOE and FBP had abated the violation in a letter dated April 15, 2011.

DOE received a Notice of Violation/Return to Compliance from the inspection conducted by U.S. EPA and Ohio EPA on June 27, 2011. The Notice of Violation was for failing to label containers of used oil and used fluorescent lamps with the words “used oil” or “used lamps”, respectively. The violation was immediately abated by labeling the containers. U.S. EPA stated in the Notice of Violation that DOE and FBP had resolved the violation. No further action was required.

LPP received a Notice of Violation dated August 2, 2011 from the Utah Radiation Control Board for a shipment of radioactive waste received on February 7, 2011 by the EnergySolutions facility in Clive, Utah. The shipment, which consisted of three 85-gallon drums of radioactive waste, exceeded the facility’s waste acceptance criteria for depleted uranium and uranium-235, based on samples of the waste that were collected and analyzed by EnergySolutions. A civil penalty of \$10,000 was assessed by the Utah Radiation Control Board and paid by LPP. The waste was subsequently shipped to and disposed at a facility that was allowed to accept radioactive waste with the levels of depleted uranium and uranium-235 that were present in the waste.

2.2 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 USEC, Inc. In 2011, air emission permits and NPDES outfalls associated with the former gaseous diffusion plant operations were transferred from USEC Government Services to DOE contractor FBP. USEC, Inc. remained responsible for compliance activities directly associated with the ACP and Lead Cascade including air emission

permits associated with the gaseous centrifuge uranium enrichment operations (the proposed ACP and the Lead Cascade), NPDES outfalls, and management of wastes generated by their current operations.

DOE and/or DOE contractors during 2011 (LPP, FBP, BWCS, or UDS) held two NPDES permits for discharge of water to surface streams, numerous air emission permits, and a Resource Conservation and Recovery Act (RCRA) Part B permit for the storage of hazardous wastes. Appendix B lists the active environmental permits and registrations held by DOE and/or DOE contractors (FBP and BWCS) at the end of 2011.

Several federal, state, and local agencies are responsible for enforcing environmental regulations at PORTS. Primary regulatory agencies include U.S. EPA and Ohio 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 U.S. EPA and Ohio 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 requiring priority cleanup. However, D&D of PORTS is proceeding in accordance with 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) and CERCLA. The DFF&O describes the process for D&D of the gaseous diffusion process buildings and associated facilities that are no longer in use. Chapter 3, Section 3.2, provides additional information about the D&D Program.

Environmental remediation, or the cleanup of soil, groundwater and other environmental media contaminated by PORTS operations, is conducted in accordance with U.S. EPA Administrative Consent Order, issued on September 29, 1989 (amended in 1994 and 1997), and Consent Decree with the State of Ohio, issued on August 29, 1989. U.S. EPA and Ohio EPA oversee environmental remediation activities at PORTS under the RCRA Corrective Action Program and CERCLA Program. Chapter 3, Section 3.3, 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 2011, 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 2011, DOE contractors had no reportable quantity releases.

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. The PORTS site, which included DOE contractors or lessees (LPP/FBP, WEMS, UDS/BWCS, and the Ohio Army National Guard) and USEC, Inc. reported the following chemicals for 2011: dichlorotetrafluoroethane (CFC-114), 1,3-dichloro-5,5-dimethylhydantoin, aluminum oxide, argon, asbestos, calcium chloride, calcium hydroxide, calcium oxide, carbon dioxide, chlorine, citric acid, coal, diesel fuel, ethylene glycol, fluorine, trichlorofluoromethane (CFC-11), fuel oil, gasoline, hydrofluoric acid, hydrogen fluoride, hydrogen peroxide, kerosene, lubricating oil, methanol, nitric acid, nitrogen, PCBs, perfluoro-1,3-dimethylcyclohexane, potassium hydroxide, potassium phosphate, propylene glycol, sodium chloride, sodium hydroxide, sodium fluoride, sodium persulfate, sodium polyacrylate, sulfuric acid, sulfur dioxide, transformer oil, triuranium octaoxide, uranium dioxide, uranium hexafluoride, uranium metal, uranium tetrafluoride, and uranium trioxide.

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 (including USEC, Inc.) 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 2011, DOE contractors reported the release, off-site transfer, and/or on-site treatment of nine chemicals:

- chlorine: used for water treatment;
- dichlorotetrafluoroethane (CFC-114): approximately 6000 lbs released to the air from the gaseous diffusion cascade system formerly used to produce enriched uranium;
- hydrochloric acid: approximately 32,000 lbs released from the X-600 Steam Plant from coal combustion and 3000 lbs in waste disposed off site;
- hydrogen fluoride: approximately 3 lbs released to the air from the DUF₆ Conversion Facility and 35 lbs treated off site;
- lead compounds: approximately 8 lbs released from the X-600 Steam Plant from burning coal and 547 lbs in materials disposed or recycled off site;
- methanol: approximately 175 lbs released from fugitive and point source air emissions and 52 lbs released to the Scioto River through permitted NPDES outfalls (from water treatment);

- nitrate compounds: approximately 31,000 lbs released to the Scioto River through permitted NPDES outfalls (from water treatment);
- nitric acid: approximately 200 lbs released to the air from the X-600 Steam Plant from burning coal; and,
- sulfuric acid: approximately 34,000 lbs released to the air from the X-600 Steam Plant from burning coal.

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. At the beginning of 2011, DOE and LPP held a permit to store hazardous waste within seven designated areas of the X-326 building (38,105 square feet or 0.9 acre). The permit was transferred to DOE and FBP on March 29, 2011, when FBP assumed responsibility for the D&D contract. 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. Ohio EPA renewed the permit on March 25, 2011, with an expiration date of March 25, 2021. 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.

In compliance with the provisions of the Part B Permit, DOE notified Ohio EPA on July 29, 2011, that incompatible waste was found being stored on the same spill prevention pallet during an inspection on June 30, 2011. A 5-gallon container of a basic solution was found being stored with four 5-gallon containers of waste acid solutions. The container of basic solution was moved the same day. No injuries or environmental impacts resulted from this non-compliance.

Facilities such as PORTS that generate or store hazardous waste are required to submit an annual report to Ohio EPA. This annual 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. DOE submitted the report for calendar year 2011 to Ohio EPA on February 29, 2012. 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 2011.

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*. 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 Area), X-701C Neutralization Pit (Quadrant II Groundwater Investigative Area), X-701B Holding Pond, X-701B retention basins, X-744Y Waste Storage Yard (X-701B Holding Pond area), X-230J7 Holding Pond (X-701B Holding Pond area), X-616 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. Chapter 6 discusses these monitoring results for 2011.

Solid waste. 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*. Chapter 6 discusses the groundwater monitoring results for these units in 2011.

2.3.1.4 Federal Facility Compliance Act

Waste that is a mixture of RCRA hazardous waste and low-level radioactive waste 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/low-level radioactive waste 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 2011 was submitted to Ohio EPA in December 2011.

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. Only eight PCB transformers were in service at PORTS at the end of 2011. Waste contaminated with PCBs was also generated during 2011 through D&D of the X-334 Transformer Cleaning and Storage Building and other areas.

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 2011. The *2011 PCB Document Log for the Portsmouth Gaseous Diffusion Plant* was prepared in June 2012. Over 800 tons of PCB waste (over 700,000 kilograms) was generated and shipped off site in 2011.

In February 1992, a TSCA Federal Facilities Compliance Agreement between DOE and U.S. EPA addressing PCB issues became effective and resolved several compliance issues. These issues included the use of PCBs in systems that are not totally enclosed, storage of wastes containing both PCBs and radionuclides in accordance with nuclear criticality safety requirements, and storage of wastes containing both PCBs and radionuclides for longer than one year. The agreement required installation of troughs under motor exhaust duct gaskets located in production facilities (the former gaseous diffusion facilities) to collect PCB oil leaks. When leaks or spills of PCBs occur, they are managed in accordance with the Federal Facilities Compliance Agreement.

Annual reports of progress made toward milestones specified in the Federal Facilities Compliance Agreement are submitted to U.S. EPA. DOE was in compliance with the requirements and milestones of this Federal Facilities Compliance Agreement during 2011.

The DUF₆ Conversion Facility stores and processes cylinders containing DUF₆ 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 2011.

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 Orders 5400.5 and 458.1, *Radiation Protection of the Public and the Environment*

DOE Order 5400.5, which was replaced by DOE Order 458.1 during 2011, provides guidance and establishes radiation protection standards and control practices designed to protect the public and the environment from undue radiological risk from operations of DOE and DOE contractors. Both DOE Order 5400.5 and 458.1 require that off-site radiation doses do not exceed 100 millirem (mrem)/year above background for all exposure pathways. In addition, DOE Order 5400.5 and/or 458.1 set dose limits to protect biota (aquatic and/or terrestrial plants and animals) and limits for discharges of radioactive materials to natural waterways. Chapter 4 provides the dose calculations or monitoring results that demonstrate compliance with these DOE Orders.

2.3.2.2 DOE Order 435.1, *Radioactive Waste Management*

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

Low-level radioactive waste is generated and stored in accordance with the *Authorization Agreement and Radioactive Waste Management Basis for Portsmouth Gaseous Diffusion Plant Facilities and Material Storage Areas* and its implementing procedures. Chapter 3, Section 3.4 provides additional information about the DOE Waste Management Program at PORTS.

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.

2.3.3.1 Clean Air Act

In 2011, DOE contractor FBP became responsible for numerous air emission sources associated with the former gaseous diffusion production facilities and support facilities (the sources that were formerly the responsibility of USEC Government Services). These sources, which include the boilers at the X-600 Steam Plant, emit 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*, Part 70.

Facilities that are major sources of air pollutants are required to submit a Title V Air Permit Application to Ohio EPA. FBP submitted this permit application to Ohio EPA in 2012 (Ohio EPA did not require submittal of the application until 2012). Ohio EPA also requires an annual report called the Ohio EPA Fee Emissions Report to report emissions of selected non-radiological air pollutants. Chapter 5, Section 5.3.1 provides more information about this fee report and the reported emissions for 2011.

DOE and BWCS or UDS were responsible for four permitted sources associated with the DUF₆ Conversion Facility. Appendix B lists the DOE 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

As part of the Stratospheric Ozone Protection Plan, 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 in units or devices. The appliance service record and retrofit or retirement plan forms apply to units with a capacity of more than 50 pounds. The refrigeration equipment disposal log and associated appliance disposal label are used by all units regardless of capacity. The contractor technicians who service air conditioning/refrigeration units under DOE control have been trained in accordance with U.S. EPA requirements.

An ozone-depleting substance, specifically dichlorotetrafluoroethane, was used as a coolant and remains present in the gaseous diffusion cascade system formerly used to produce enriched uranium. In 2011, approximately 6000 pounds of dichlorotetrafluoroethane were released to the air.

2.3.3.3 National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants require DOE to submit an annual report for radiological emissions from DOE air emission sources. DOE contractors FBP and BWCS are both responsible for radiological air emission sources. Chapter 4, Section 4.3.3, provides the radiological dose calculations from these emissions.

FBP sources

In 2011, air emission sources associated with the gaseous diffusion process were returned to DOE from USEC Government Services. FBP was responsible for these sources. These sources included 1) continuously monitored vents in the X-326 and X-330 Process Buildings, and the X-344A Uranium Hexafluoride Sampling Building and 2) room ventilation exhausts and/or pressure relief vents associated with the X-700 Chemical Cleaning Facility, X-710 Technical Services Building, X-705 Decontamination Facility, and the XT-847 Glove Box. In addition, DOE and LPP/FBP were responsible for five sources of radionuclide emissions that were transferred from LPP to FBP on March 29, 2011: the X-622, X-623, X-624, X-627 Groundwater Treatment Facilities and the X-326 L-cage Glove Box.

Radiological emissions from the vents in the X-326 and X-330 Process Buildings and the X-344A Uranium Hexafluoride Sampling Building were measured by continuous monitoring. Emissions from the room ventilation exhausts and/or pressure relief vents associated with the X-700 Chemical Cleaning Facility, X-710 Technical Services Building, X-705 Decontamination Facility, and the XT-847 Glove Box were estimated based on operating data and U.S. EPA emission factors. Emissions from the groundwater treatment facilities were conservatively estimated based on quarterly influent/effluent sampling and quarterly throughput. Emissions from the X-326 L-cage Glove Box were based on the mass of the materials transferred within the glove box, analytical data available for each material, and emission factors provided by U.S. EPA. Radiological air emissions from FBP sources in 2011 were 0.145 curie (Ci).

BWCS sources

DOE and BWCS/UDS were responsible for emissions from the DUF₆ Conversion Facility. Responsibility for the DUF₆ Conversion Facility was transferred from UDS to BWCS on March 29, 2011. Emissions from the DUF₆ Conversion Facility were based on the annual emissions provided in the permit application for the facility. Radiological air emissions from the DUF₆ Conversion Facility in 2011 were 0.0000042 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 LPP, FBP, UDS, and BWCS held NPDES permits during 2011 that allowed discharges of water to surface streams. Responsibility for the LPP and UDS NPDES permits was transferred to FBP and BWCS, respectively, on March 29, 2011. In addition, FBP became responsible for the majority of the NPDES outfalls that were formerly the responsibility of USEC Government Services on September 1, 2011.

At the end of 2011, 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 are also monitored. Chapter 4, Section 4.3.5.1, and Chapter 5, Section 5.4.1.1, provide additional information on the FBP NPDES outfalls.

The BWCS NPDES permit allows the discharge of process wastewaters from the DUF₆ Conversion Facility. One outfall is monitored under the permit; the discharge from this outfall flows through the X-230J5 Northwest Holding Pond (FBP NPDES Outfall 010) before reaching waters of the state. During 2011, no process wastewater was discharged through the BWCS NPDES outfall; discharges from the BWCS NPDES outfall only consisted of precipitation runoff. Chapter 4, Section 4.3.5, and Chapter 5, Section 5.4.1.2, provide additional information on the BWCS NPDES outfall.

Data required to demonstrate compliance with the NPDES permits are submitted to Ohio EPA in monthly operating reports (see Chapter 5, Section 5.4.1.1). Two permit limitations associated with the FBP NPDES permit effluent limitations were exceeded during 2011, although one of the exceedences occurred in January 2011 when the outfall was the responsibility of USEC Government Services (see Chapter 5, Section 5.4.1.1). The overall FBP NPDES compliance rate for 2011 was 99%. BWCS had 14 exceedences of NPDES permit effluent limitations in 2011 (see Chapter 5, Section 5.4.1.2); therefore the overall BWCS NPDES compliance rate for 2011 was 96%.

A quarterly discharge monitoring report that provides radiological monitoring data for the FBP NPDES outfalls is also submitted to Ohio EPA (see Chapter 4, Section 4.3.5). The BWCS outfall is 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. A Stormwater Pollution Prevention Plan is prepared for construction activities covered by the NPDES Construction Stormwater General Permit. The Stormwater Pollution Prevention Plan includes a detailed description of the construction activity and the controls to be used to minimize impacts to stormwater runoff.

The final end state and future use of the PORTS site has not yet been determined. Storm water management and drainage design will be included in the plans for redevelopment of the site after D&D and remediation is completed.

2.3.4.2 Safe Drinking Water Act

In 2011, FBP became responsible for operation of the PORTS drinking water system, which was formerly operated by USEC Government Services. 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, including nitrate, lead, disinfection byproducts, total coliform, and chlorine. Sampling results are submitted to Ohio EPA in a monthly report.

2.3.5 Other Environmental Statutes

This section discusses the DOE compliance status with other U.S. EPA and Ohio EPA regulations, including underground storage tank regulations, the Endangered Species Act, and others.

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. Seven underground storage tanks in the former gaseous diffusion plant buildings and associated facilities are owned by DOE. These tanks include six diesel fuel tanks ranging in size from 500 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 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 451.1, *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 impact statements or environmental assessments were planned, underway, or completed during 2011.

Routine operation and maintenance activities are also evaluated to assess potential environmental impacts. Most DOE activities at PORTS qualify for a categorical exclusion as defined in the regulations. These activities are considered routine and have no significant individual or cumulative environmental impacts. In 2009, DOE implemented a policy to post online specific classes of categorical exclusions as found in Title 10 of the *Code of Federal Regulations* Part 1021, Appendix B to Subpart D. The following categorical exclusions for PORTS were posted on the DOE Portsmouth/Paducah Project Office website (www.pppo.energy.gov) in 2011:

- transfer of a property easement to American Electric Power for installation and maintenance of an overhead power line from an existing power pole on DOE property,
- transfer of a property easement to the Pike County Board of Commissioners for a sanitary sewer line on DOE property,
- site characterization, investigation, and environmental monitoring activities,
- small-scale interim remedial actions, short-term cleanup and/or closure activities, and waste storage under RCRA,
- alteration of existing buildings, construction of small-scale structures, and relocation of machinery, equipment, and utilities, and

- routine maintenance activities.

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 site-wide threatened and endangered species habitat survey and an Indiana bat (*Myotis sodalis*) survey were completed in August 1996. No Indiana bats were found at PORTS. Few potential critical habitats were identified, and a report of the survey activities and results was provided to the Ohio Department of Natural Resources as required by the Federal Fish and Wildlife permit obtained to conduct the survey. No additional activities were completed in 2011.

2.3.5.4 National Historic Preservation Act

The National Historic Preservation Act of 1966 is the primary law governing the protection of cultural resources (archaeological and historical properties). Cultural resource reviews are conducted on a case-by-case basis, and consultations with the Ohio Historic Preservation Office and other stakeholders are made as required by Section 106 of the Act. With the beginning of D&D at PORTS, DOE is working with the Ohio Historic Preservation Office and other stakeholders to determine how best to document the history associated with the buildings and other areas that are part of D&D. Requirements of the National Historic Preservation Act will be worked into the CERCLA process.

In 2011, Phase I and/or Phase II archaeological site surveys were completed at 51 historic farmsteads identified at locations throughout the undeveloped portions of the PORTS property. The former farmsteads were evaluated to determine whether the sites had potential to provide significant information regarding settlement in the late 1800s and early 1900s in Appalachian Ohio and therefore be eligible for the National Register of Historic Places. None of the sites were recommended as eligible for inclusion on the National Register of Historic Places, and no additional work was recommended at these sites.

Additionally, site surveys for prehistoric Native American activity were in progress during 2011 in the undeveloped portions of the PORTS property. Additional assessment and/or mitigation activities may be performed, as necessary, in the future.

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; a questionnaire that provides information for PORTS is completed annually by DOE.

2.3.6 DOE Order 436.1 Departmental Sustainability

DOE Order 436.1, *Departmental Sustainability*, replaced DOE Order 450.1A, *Environmental Protection Program*, during 2011. Both DOE Orders require 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 and WEMS have developed the following EMS criteria, as applicable: site EMS policy statement, EMS implementation training, identification of significant environmental aspects of site operations, establishment of measurable environmental objectives and targets, EMS awareness training (initial and ongoing), and establishment of EMS procedures. BWCS is in the process of developing an EMS program.

The DOE contractor EMS programs were audited in May/June of 2009 to confirm that the DOE contractors at that time had fully implemented the requirements of DOE Order 450.1A. There were no findings as a result of the audit. An independent assessment of the EMS by qualified personnel outside the control or scope of the EMS is required at least every three years for the program to maintain its fully implemented status.

An annual EMS report is prepared to document DOE's progress, performance, and successes in implementing the EMS at PORTS. The highest priority aspects identified in the fiscal year 2011 EMS report were as follows:

- evaluate opportunities for energy efficiency, reduced water consumption, and reductions in greenhouse gas emissions related to DOE's increased footprint at PORTS (return of the gaseous diffusion buildings from USEC Government Services) and PORTS D&D activities;
- clean-up environmental contamination related to past activities at PORTS;
- remove inactive facilities; and
- reduce inventory of legacy waste and minimize waste generation.

The report stated that 80% or more of the established EMS objectives, targets, and programs were on schedule to be met. Chapter 3, Section 3.5, provides information about the DOE Environmental Sustainability Program at PORTS.

2.3.7 Executive Orders

An Executive Order is issued by a member of the executive branch of the government. Most 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 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*

In 2009, Executive Order 13514 introduced management requirements for greenhouse gas emissions and expanded previous energy reduction and other environmental sustainability goals. Chapter 3, Section 3.5, provides a summary of the DOE Environmental Sustainability Program at PORTS and associated activities for 2011, which includes goals related to this executive order.

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

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

The site-wide wetland survey report was completed and submitted to the Corps of Engineers in 1996. There are 41 jurisdictional wetlands and four non-jurisdictional wetlands totaling 34.361 acres at PORTS. During 2011, no DOE activities were conducted in jurisdictional wetlands.

2.4 OTHER MAJOR ENVIRONMENTAL ISSUES AND ACTIONS

This section summarizes environmental inspections of DOE activities at PORTS during 2011 and the results of these inspections.

2.4.1 Environmental Program Inspections

During 2011, more than 15 inspections of DOE activities at PORTS were conducted by federal, state, or local agencies. Table 2.1 lists these inspections.

Table 2.1. Environmental inspections of DOE activities at PORTS for 2011

Date	DOE contractor	Agency	Type	Notices of Violation
April 12	FBP	Ohio EPA	NPDES compliance	None
April/May (multiple dates)	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-611A Prairie, Five-Unit area and X-749/X-120 groundwater extraction systems, X-624/X-627 Groundwater Treatment Facilities, X-230J7 East Holding Pond, and X-735 Landfill)	None
May 17	FBP	Ohio EPA	RCRA compliance	None
June 15	FBP	Pike County Health Department and Ohio EPA	Closed solid waste landfills: X-749A, X-749, and X-735 (solid waste portion)	None
June (multiple dates)	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-749A, X-734 Landfills, X-701C, X-705 area)	None
June 27	FBP	Ohio EPA and U.S. EPA	RCRA compliance	See Section 2.4.1
July 28	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-231A&B Oil Biodegradation Plots, X-749A Landfill)	None
August (multiple dates)	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-533 Former Switchyard, X-744 Warehouses, PK Landfill, X-616 Former Chromium Sludge Surface Impoundments)	None
September 27	FBP	Ohio EPA	RCRA compliance	None
October 5	BWCS	Ohio EPA	RCRA compliance	None
October 5	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-734 Landfills)	None
October 18	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-735 Landfills, X-705 area)	None
November 16	FBP	Ohio EPA	NPDES permit compliance	None
November 16	FBP	Ohio EPA	RCRA Corrective Action surveillance and maintenance (X-622, X-624, X-627 Groundwater Treatment Facilities and X-230J7 East Holding Pond)	None
December 1	FBP	Ohio EPA	RCRA compliance	None

DOE and/or DOE contractors received three Notices of Violation in 2011. On April 6, 2011, Ohio EPA observed a release of used oil at the X-630 D&D project that was a violation of used oil storage regulations. In response to the release, FBP removed and disposed of absorbent materials saturated with oil and stained gravel in the area of the release. Absorbent material and straw was placed in or around the affected on-site drainage ditch and storm drain to catch any residual oil. Documentation of the cleanup was provided to Ohio EPA. In response, Ohio EPA stated that DOE and FBP had abated the violation in a letter dated April 15, 2011.

DOE/FBP received a Notice of Violation/Return to Compliance from the inspection conducted by U.S. EPA and Ohio EPA on June 27, 2011. The Notice of Violation was for failing to label containers of used oil and used fluorescent lamps with the words “used oil” or “used lamps”, respectively. The violation was abated by appropriately labeling the containers. U.S. EPA stated in the Notice of Violation that DOE and FBP had resolved the violation. No further action was required.

LPP received a Notice of Violation dated August 2, 2011 from the Utah Radiation Control Board for a shipment of radioactive waste received on February 7, 2011 by the EnergySolutions facility in Clive, Utah. The shipment, which consisted of three 85-gallon drums of radioactive waste, exceeded the facility’s waste acceptance criteria for depleted uranium and uranium-235, based on samples of the waste that were collected and analyzed by EnergySolutions. A civil penalty of \$10,000 was assessed by the Utah Radiation Control Board and paid by LPP. The waste was subsequently shipped to and disposed at a facility that was allowed to accept radioactive waste with the levels of depleted uranium and uranium-235 that were present in the waste.

2.5 UNPLANNED RELEASES

No unplanned releases from DOE activities at PORTS were reported in 2011.

2.6 SUMMARY OF PERMITS

Appendix B lists the permits held by DOE and/or DOE contractors in 2011.