



## Department of Energy

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**JUL 30 2015**

Ms. Maria Galanti  
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PPPO-03-3065331-15

Dear Ms. Galanti:

**FINAL RECORD OF DECISION FOR THE PROCESS BUILDINGS AND COMPLEX FACILITIES DECONTAMINATION AND DECOMMISSIONING EVALUATION PROJECT AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT, PIKETON, OHIO (DOE/PPPO/03-0425&D1)**

References:

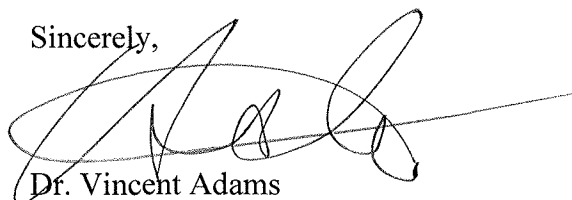
1. Letter from W. Murphie to M. Galanti, "Record of Decision for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (DOE/PPPO/03-0425&D1)" PPPO-03-3018022-15 dated June 30, 2015
2. Letter from C. Butler to K. Wiehle and J. Bradburne, "Ohio EPA Concurrence/Approval as Applicable on the Record of Decision for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project," dated July 29, 2015

Enclosed please find the U.S. Department of Energy's (DOE's) final *Record of Decision for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0425&D1) (PB ROD) for your records. The Ohio Environmental Protection Agency (Ohio EPA) was provided with the draft PB ROD, which Ohio EPA concurred in the letter dated July 29, 2015. The enclosed PB ROD is the final version and has been signed by Mr. William E. Murphie, Manager of the Portsmouth/Paducah Project Office. This document was prepared 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*.

Ohio EPA's engagement and participation in early discussion was a tremendous benefit to the project and DOE appreciates your cooperation.

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

Sincerely,



Dr. Vincent Adams  
Portsmouth Site Director  
Portsmouth/Paducah Project Office

Enclosure:

Final Record of Decision for the Record of Decision for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (DOE/PPPO/03-0425&D1)

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**RECORD OF DECISION  
FOR THE  
PROCESS BUILDINGS AND COMPLEX FACILITIES  
DECONTAMINATION AND DECOMMISSIONING  
EVALUATION PROJECT  
AT THE  
PORTSMOUTH GASEOUS DIFFUSION PLANT,  
PIKETON, OHIO**



**U.S. Department of Energy  
DOE/PPPO/03-0425&D2**

**July 2015**

This document is approved for public release per review by:

*Sam Eldridge* (signature on file)

PORTS Classification Office/Export Controlled Information Officer

06-12-2015

Date

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**RECORD OF DECISION  
FOR THE  
PROCESS BUILDINGS AND COMPLEX FACILITIES  
DECONTAMINATION AND DECOMMISSIONING  
EVALUATION PROJECT  
AT THE  
PORTSMOUTH GASEOUS DIFFUSION PLANT,  
PIKETON, OHIO**

**U.S. Department of Energy  
DOE/PPPO/03-0425&D2**

**July 2015**

**Prepared for  
U.S. Department of Energy**

**Prepared by  
Fluor-B&W Portsmouth LLC, Under Contract DE-AC30-10CC40017  
FBP-ER-RIFS-BG-RPT-0037, Revision 7**

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## ACRONYMS

ARAR	applicable or relevant and appropriate requirement
BERA	baseline ecological risk assessment
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
<i>CFR</i>	<i>Code of Federal Regulations</i>
COC	contaminant of concern
D&D	decontamination and decommissioning
DFF&O	<i>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</i>
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
ELCR	excess lifetime cancer risk
EPA	U.S. Environmental Protection Agency
FS	feasibility study
FY	fiscal year
GDP	gaseous diffusion plant
HEU	highly-enriched uranium
LEU	low-enriched uranium
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NRHP	National Register of Historic Places
Ohio EPA	Ohio Environmental Protection Agency
OHI	Ohio Historic Inventory
OHPO	Ohio Historic Preservation Office
OMB	Office of Management and Budget
OSDC	on-Site disposal cell
PCB	polychlorinated biphenyl
PGE	process gas equipment
PORTS	Portsmouth Gaseous Diffusion Plant
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act of 1976, as amended
RD/RA	remedial design/remedial action
RFI	RCRA facility investigation
RI	remedial investigation
ROD	Record of Decision
S&M	surveillance and maintenance
SAP	sampling and analysis plan
TBC	to-be-considered (guidance)
TCE	trichloroethene
TSCA	Toxic Substances Control Act of 1976
USEC	United States Enrichment Corporation
USFWS	U.S. Fish and Wildlife Service
<i>USC</i>	<i>United States Code</i>
WAC	waste acceptance criteria

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**PART 1. DECLARATION**

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## SITE NAME AND LOCATION

Process Buildings and Complex Facilities Decontamination and Decommissioning (D&D) Evaluation Project at the Portsmouth Gaseous Diffusion Plant (PORTS) in Piketon, Ohio.

## STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedy for the Process Buildings and Complex Facilities D&D Evaluation Project (i.e., the Process Buildings Project) at the U.S. Department of Energy (DOE) PORTS Facility in Piketon, Ohio. The Process Buildings Project provides a decision on the fate of the buildings/structures and infrastructures that comprise the remaining PORTS facilities that DOE has the current responsibility to disposition (Attachment H of the Ohio Environmental Protection Agency [Ohio EPA] Director's Final Findings and Orders [DFF&O<sup>1</sup>]). The DFF&Os were issued to DOE pursuant to the authority vested in the Director of Ohio EPA under *Ohio Revised Code* Sections 3704.03, 3734.13, 3734.20, 6111.03, and 3745.01 and DOE entered into the DFF&O pursuant to Section 104 of Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (CERCLA), 42 *United States Code (USC)* §9604, Executive Order 12580, and the Atomic Energy Act of 1954, as amended, 42 *USC* §2011, *et seq.* Approximately 100 other buildings and structures have already been removed at PORTS. As part of the decision in this ROD, infrastructure may be left in a state that protects future users of PORTS or may be removed. This remedial action was selected in accordance with the DFF&O and pursuant to DOE's CERCLA authority under Executive Order 12580.

The decision presented herein considered the information in the Administrative Record File for the Process Buildings Project at PORTS, including comments received during the public comment period held from November 12, 2014 to March 11, 2015, and at the public meeting held on November 17, 2014, following issuance of the Proposed Plan. Major project documents prepared include the preinvestigation evaluation report, remedial investigation/feasibility study (RI/FS) work plan, the RI/FS report, and the Proposed Plan. All comments received during the public comment period on the Proposed Plan were reviewed and considered in the development of this ROD. Numerous public comments were received, and DOE has responded to the comments in Part 3 of this ROD, the Responsiveness Summary. Ohio EPA concurs with the selected remedy and the applicable or relevant and appropriate requirements (ARARs) and approves Schedules and Milestones set forth in this ROD.

## ASSESSMENT OF THE SITE

The response actions selected in this ROD are necessary to protect public health or welfare and the environment from actual or threatened releases of hazardous substances from the degradation of the buildings/structures and infrastructure.

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<sup>1</sup> *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.*

## DESCRIPTION OF THE SELECTED REMEDY

This ROD presents the selected remedy for the process buildings and complex facilities at PORTS. The selected remedy for the Process Buildings Project is Alternative 2, remove structures using controlled demolition, treat as necessary, package waste for final disposition, and recycle and/or reuse of buildings or structure materials, as appropriate. The selected remedy includes the following key elements:

- Requires physical barriers, surveillance, maintenance, and monitoring activities to continue before and during demolition in an individual demolition area until demolition is complete or protective levels are met in that area.
- Requires additional building characterization to be performed, as needed, to support remedial design, develop worker safety protocols, and facilitate segregation of waste streams and waste disposition planning. The amount of characterization will depend on the historical use, available process knowledge, and the anticipated disposal facility. An appropriate amount of characterization will be specified during the remedial design phase and such remedial design plans will be submitted for Ohio EPA concurrence and/or approval, as applicable.
- Provides for demolition preparation activities, and allows for trailers, equipment, and support facilities/structures to be installed as needed. Requires temporary structures to be evaluated to determine if such construction meets the definition of D&D in the DFF&O. If such construction meets the definition of D&D in the DFF&O, the structure would need to be added to the DFF&O, Attachment H through a modification to the DFF&O. If added to Attachment H of the DFF&O, the structures would then be demolished, as part of this decision, upon completion of the project, if there is no future planned use for the structure.
- Provides for the removal and packaging of asbestos-containing material, as appropriate, in preparation for waste acceptance criteria (WAC)-compliant disposal.
- Provides for the draining and packaging of remaining fluids (e.g., lubricating oils, fuels, and liquid chemicals from equipment and tanks) for WAC-compliant disposal.
- To the extent practicable and in compliance with ARARs, provides for the removal of some materials within the buildings, including those listed above, for packaging and preparation for dispositioning prior to building demolition. Other materials will be left in the building to be demolished with the rest of the structure. Predemolition removal of these materials will allow for waste segregation, as necessary, for appropriate disposal. In some cases, predemolition removal of some items will be done to improve the safety of demolition workers.
- Provides for the decontamination of buildings/structures and infrastructure components as needed to protect workers, meet regulatory requirements, facilitate material recycle and/or reuse or demolition, or meet disposal facility WAC. Construction of any necessary facilities to support the decontamination activities is included.
- Provides for the deactivation or rerouting of utilities and specialty systems (e.g., criticality alarms and security alarms) in concert with termination of need. New utilities may need to be installed as part of this provision to make sure current tenants and D&D workers have access to such utilities (e.g., water, power). Requires that any new structures installed as part of this provision be evaluated to determine if such new construction meets the definition of D&D in the DFF&O. If such



construction meets the definition of D&D in the DFF&O, the structure would need to be added to the DFF&O, Attachment H, through a modification to the DFF&O. If added to Attachment H of the DFF&O, the structures would then be demolished, as part of this decision, upon completion of the project, if there is no future use planned for the structure.

- Provides for the removal of process gas equipment (PGE) and/or piping from the three process buildings (X-333, X-330, and X-326) if required to meet transportation requirements, disposal facility WAC requirements, or if needed to recover recyclable/reusable materials from the PGE. Allows for the disassembly and/or size reduction of the PGE and piping and the removal and treatment (as needed) of the uranium deposits or the recyclable/reusable materials on Site. The removed PGE and uranium deposit materials will be packaged for transportation and disposal in accordance with the applicable WAC, while recoverable materials will be prepared as necessary for eventual recycling and/or reuse.
- Provides for the removal and size reduction of oversized auxiliary equipment, as appropriate.
- Provides for the cutting or disconnecting of piping and electrical cables leaving the designated buildings/structures footprints.
- Requires controlled demolition of the above-grade buildings/slabs, structures, and infrastructure listed on Attachment H of the DFF&O, unless an alternate use that is deemed protective is found for one or more of them. Also requires removal or decontamination of subsurface structures and infrastructure if contaminated and not protective of human health and the environment as required by the remedial action objectives (RAOs). Provides for the removal of all other subsurface structures and infrastructure. However, if consistent with the RAOs, DOE may consider leaving specific subsurface structures or infrastructure in place with Ohio EPA concurrence and/or approval, as applicable. The actual methods of controlled demolition will be specified during remedial design.
- Provides for the removal and management of residual soils, as described in Paragraph 5(e)(3) and 5(e)(4)(ii) of the DFF&O.
- In accordance with ARARs, requires the use of controls to minimize fugitive dust during demolition and to control and monitor storm water runoff.
- Allows for the rubblizing of concrete for use as fill at PORTS, in accordance with ARARs, either on Site or as fill at the On-Site Disposal Cell (OSDC).
- Provides for the segregation and size reduction, treatment, and packaging of waste streams by waste type, in accordance with ARARs and disposal facility WAC in preparation for disposition.
- Allows, at DOE's discretion, for the consideration and preparation of equipment or recyclable materials for recycling and/or reuse, in accordance with ARARs.
- Requires demolition areas to be backfilled or graded, as needed, to promote drainage, and seeded, if appropriate, to promote revegetation.
- Provides for the use of decontamination, subsidence avoidance/size reduction, and contaminant immobilization treatment technologies on a waste stream-by-waste stream basis to reduce potential exposure hazards to demolition workers; reduce the volume of contaminated waste; meet disposal

facility WAC; meet transportation requirements for off-Site shipment; or allow future recycle and/or reuse of equipment, materials, or buildings. Requires use of treatment methods that are in compliance with ARARs.

- Because the Waste Disposition ROD has been finalized before the Process Buildings Project ROD, wastes from the Process Buildings Project ROD will be disposed in accordance with the Waste Disposition Project ROD. Transportation and disposal of waste or materials is included in the Waste Disposition Project ROD (DOE 2015). Waste generated from the Process Buildings Project ROD that meets the Ohio EPA-approved OSDC WAC will be disposed on Site in accordance with the Waste Disposition ROD and Paragraph 12.b of the DFF&O.

Long-term institutional controls may be required under this remedy if necessary to ensure protectiveness, in compliance with ARARs.

There will be a continuation of the pre-D&D actions under the DFF&O. These actions include activities such as infrastructure modifications, draining liquids, hazard abatement, asbestos removal, removal of recyclable equipment, work area improvements, and utility reconfigurations (including installation). These activities will continue in accordance with National Environmental Policy Act of 1969 reviews and under the applicable laws and regulations until such time as Ohio EPA concurs with the associated post-ROD remedial design/remedial action (RD/RA) work plans or other documents, as appropriate. At that time, these activities will be implemented under the DFF&O decision documents.

Support of characterization activities in the process buildings that began during the Waste Disposition Project RI/FS will continue under the *Phase 1 Sampling and Analysis Plan for the Process Equipment Characterization in Support of the Site-wide Waste Disposition Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE 2014) until such time as Ohio EPA concurs with the associated post-ROD RD/RA work plans or other documents, as appropriate.

## STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with applicable or relevant and appropriate federal and state requirements, is cost-effective, and uses permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.

Although treatment is a component of the selected remedy, the amount of treatment used is likely to be small. However, the remedy meets the premise behind the statutory preference for treatment as a principal element of the remedy because a majority of the buildings have low levels of contamination and will result in high volumes of waste. CERCLA guidance recognizes that it is not cost-effective to apply treatment technologies to low-contamination, high-volume waste streams. Under the selected remedy, treatment may be applied to high-contamination, low-volume waste streams to reduce the toxicity, mobility, or volume of the waste prior to disposal or recycling and/or reuse. Decontamination, subsidence avoidance/size reduction, and contaminant immobilization are treatment technologies that will be used waste stream-by-waste stream to reduce potential exposure hazards to demolition workers, reduce the volume of contaminated waste, meet disposal facility WAC, meet transportation requirements for off-Site shipment, or allow future recycle and/or reuse of equipment, materials, or buildings. Only treatment methods that are in compliance with ARARs in accordance with the DFF&O will be used. Details of necessary treatment required under this remedy will be described in a subsequent Process Buildings Remedial Action/Remedial Design work plan(s).

## **PART 2. DECISION SUMMARY**

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It is anticipated that 5-year reviews may be required for this remedial action for either of the following conditions:

- As part of the selected remedy, some structures may ultimately be allowed to remain at PORTS with Ohio EPA concurrence/approval, as applicable, consistent with and satisfying the protective requirements for a future land use scenario. By definition, a future industrial land use scenario may not result in a condition of unlimited future use and unrestricted exposure, thereby triggering the need for 5-year reviews.
- Portions of the remedial action may take longer than 5 years to complete, once initiated.

### **ROD DATA CERTIFICATION CHECKLIST**

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the Administrative Record File for this decision.

- Site name, location, and description
- Site history and enforcement activities
- Community participation
- Scope and role of response action and its relationship to other decisions
- Site characteristics
- Current and reasonably anticipated future land use assumptions used in the risk assessment and RAOs
- Potential risk represented from exposure to the contaminants of concern
- RAOs
- Description of the two alternatives considered
- Summary of a comparative analysis of the two alternatives
- The lack of principal threat waste
- Description of the selected remedy
- How the selected remedy meets the statutory requirements
- Documentation of any significant changes.

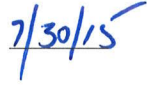
**SIGNATURE**

Approval: \_\_\_\_\_

William Murphie, Manager  
Portsmouth/Paducah Project Office  
U.S. Department of Energy

Handwritten signature of W.E. Murphie in blue ink.

Date: \_\_\_\_\_

Handwritten date 7/30/15 in blue ink.

## 1. SITE NAME, LOCATION, AND DESCRIPTION

The Portsmouth Gaseous Diffusion Plant (PORTS), which began operations in 1954, is located on a 3,777-acre federal reservation in a rural area of Pike County, Ohio (Figure 1). The U.S. Department of Energy (DOE) owns the Facility and is carrying out cleanup efforts.

From 1954 to 2001, the PORTS gaseous diffusion process enriched uranium for DOE and predecessor agencies, the Naval Nuclear Propulsion Program, and commercial customers. In 1993, DOE began leasing the uranium enrichment production and operations facilities at PORTS to the United States Enrichment Corporation (USEC). Uranium was enriched at PORTS by USEC until May 2001, at which time the production facilities were placed into a cold-standby mode. During cold standby, the process buildings were maintained with a restart capability as a strategic hedge against a disruption in the nation's supply of enriched uranium. DOE terminated the cold-standby program in September 2005 and replaced it with a cold-shutdown program, which no longer maintained the gaseous diffusion restart capability. The process buildings, support facilities, and auxiliary facilities are more than 50 years old, but they have been maintained in a safe and secure condition.

The gaseous diffusion plant (GDP) and surrounding area are owned by DOE. The entire plant consists of approximately 415 facilities ("facility" can mean a building, utility system, or infrastructure unit) with three main process buildings known as X-333, X-330, and X-326, which house the gaseous diffusion equipment. The three main process buildings are located in the center of PORTS and cover a combined footprint of approximately 90 acres (Figure 2). Various support and auxiliary buildings/structures include many substantial buildings/structures for product feed and transfer operations, maintenance, steam generation, chemical cleaning, decontamination, process heat removal, water supply, water storage, water distribution, and electrical power distribution. Other buildings house the administrative offices, medical facility, security headquarters, plant control facility, and laboratory support. These buildings consist mostly of concrete/steel construction on concrete slabs.

The three process buildings, as well as most of the remaining buildings/structures and infrastructure, are situated within the approximately 1,000-acre industrialized area that lies within Perimeter Road. The industrialized area includes a 750-acre controlled access area. The central, industrialized area is largely devoid of trees, with managed lawns, parking lots, and paved roadways dominating the open space. The portion of the DOE property outside of Perimeter Road, consisting of more than 2,500 acres, is used for a variety of purposes, including a water treatment plant, sediment ponds, sanitary and inert landfills, cylinder storage yards, open fields, and forested buffer areas (U.S. Nuclear Regulatory Commission 2006). Closed existing landfills and burial grounds account for approximately 101 acres.



Figure 1. PORTS Location



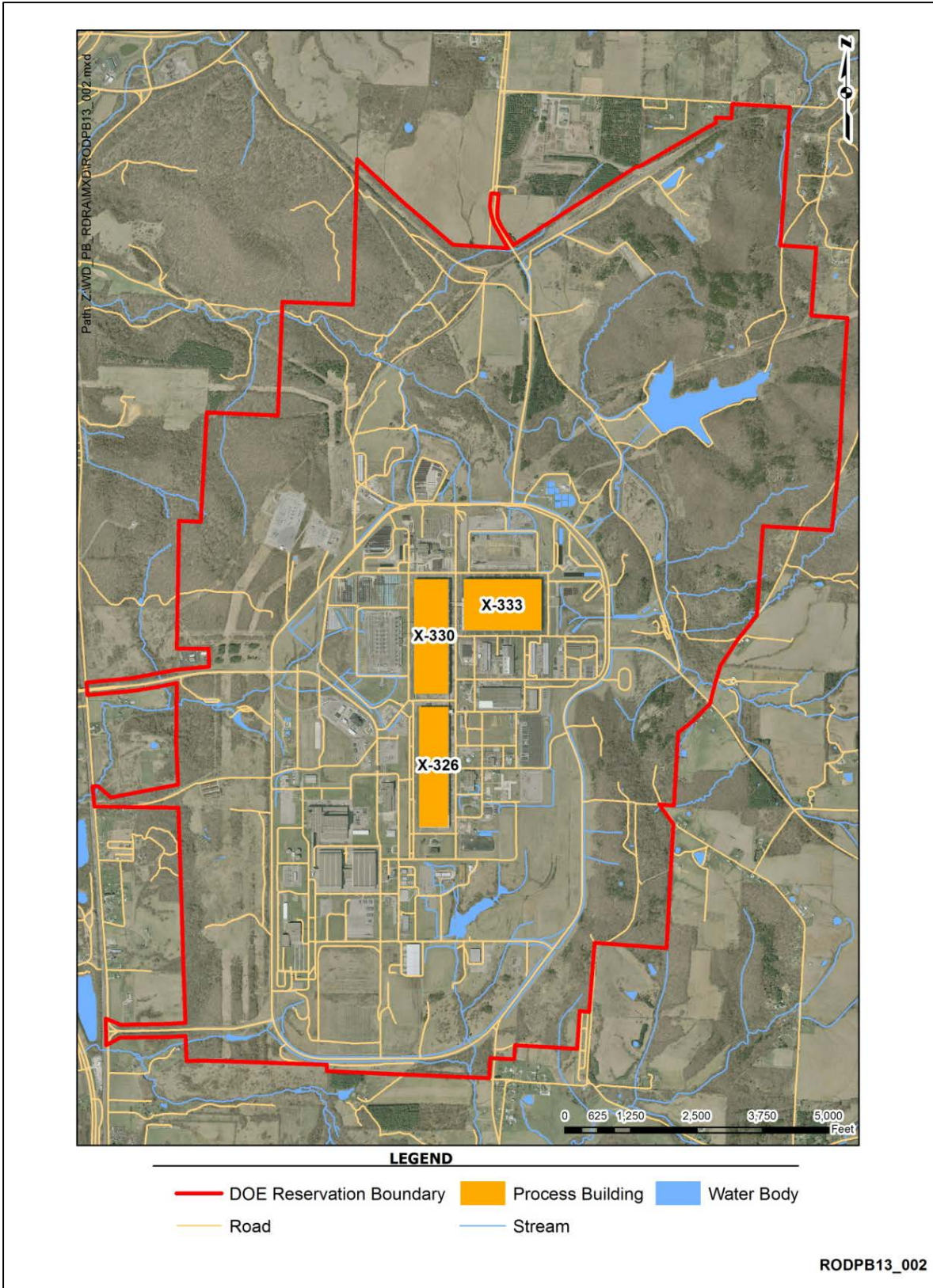


Figure 2. PORTS Facility

## 2. SITE HISTORY AND ENFORCEMENT ACTIVITIES

PORTS began operations in 1954 and was one of three uranium enrichment facilities originally constructed in the United States; the other two were constructed in Oak Ridge, Tennessee, and Paducah, Kentucky. PORTS used the gaseous diffusion process to provide highly-enriched uranium (HEU) to the U.S. Navy and low-enriched uranium (LEU) for electrical power generation. From 1991 until production ceased in 2001, PORTS produced only LEU for commercial power plants. In 1993, DOE leased the commercial uranium enrichment operations to USEC while retaining responsibility for certain environmental restoration and waste management activities, uranium programs, and long-term stewardship of non-leased facilities at PORTS.

In August 2000, USEC made a business decision to terminate its enrichment operations at PORTS and ceased those activities in May 2001. At that time, DOE contracted with USEC to establish a cold-standby program to maintain enrichment restart capability at the facility as a strategic hedge against disruption in the nation's supply of enriched uranium. The cold-standby program was terminated by DOE at the end of fiscal year (FY) 2005, and the facilities have been maintained in cold-shutdown status while decontamination and decommissioning (D&D) was planned.

Many operations and maintenance activities at PORTS involved hazardous conditions and the potential for exposure of personnel and the environment to radioactive and chemical hazards such as hazardous substances. Enrichment process facilities with the potential for such exposures included the gaseous diffusion cascade and other process buildings; a process feed manufacturing plant; an oxide conversion plant; decontamination, cleaning, and uranium recovery facilities; a smelter; and incinerators. Leaks and off-gassing from process equipment or components being repaired or replaced resulted in the release of airborne uranium, transuranic constituents, fission products, fluorine, and hydrogen fluoride gas (DOE 2000a). Various hazardous substances such as asbestos, beryllium, lead, trichloroethene (TCE) and other solvents, polychlorinated biphenyls (PCBs), acids, chromium, nickel, lithium, and mercury were also used. Radioactive materials and other hazardous substances were spilled or released to the environment from production-related facilities and attendant work activities.

Activities to manage wastes and liquid process effluents evolved over the operating lifetime of PORTS. Throughout its history, efforts were made to minimize the loss of valuable enriched uranium in PORTS waste streams. However, PORTS' sanitary landfills likely received some contaminated material because waste segregation practices were not fully implemented. As new requirements were enacted, additional waste streams, such as hazardous wastes, were restricted from disposal in PORTS landfills. Oils contaminated with PCBs and uranium were disposed of in oil biodegradation plots, burned in open containers, or incinerated (DOE 2000a).

In the 1970s, several new wastewater treatment systems were constructed to meet new permit requirements and to significantly reduce the levels of radionuclide emissions to surface water. The PORTS National Pollutant Discharge Elimination System permit, issued by the State of Ohio in the 1970s, required testing and reporting of specific chemical and physical properties and set limits on chemical discharges. Despite the discharge restrictions, legacy environmental contamination exists in ponds, ditches, and streams (DOE 2000a).

Dating back to 1989, eight major environmental regulatory documents have been established for PORTS and variously amended. These are summarized in Table 1. The table identifies the document, its year of enactment, and its major intended purpose.

**Table 1. PORTS Regulatory Documents**

<b>Regulatory Document</b>	<b>Date</b>	<b>Purpose</b>
Ohio EPA Consent Decree	1989	Requires investigation and remediation of solid and hazardous waste units in accordance with RCRA, between Ohio EPA and DOE
Toxic Substances Control Act Compliance Agreement (EPA and DOE)	1992	Brings DOE into compliance with TSCA regulations; establishes D&D milestones for TSCA waste, as modified in 1997
Ohio Hazardous Waste Facility Installation and Operation Permit (and Renewal)	1995-present	Allows RCRA-permitted container storage for hazardous waste with DOE as the Owner and Co-Operator and current Co-Operator; references the RCRA Corrective Action Orders: Ohio Consent Decree, Administrative Consent Order, and Ohio Director's Final Findings and Orders for Integration; and amended in 2011 to add/remove Co-operator
Ohio Director's Final Findings and Orders for Site Treatment Plan	1995	Allows for the storage of mixed hazardous waste beyond the 1-year regulatory limit; requires an Annual Site Treatment Plan Report; and the 1993 amendment was superseded
Administrative Consent Order	1997	Requires investigation and remediation of solid and hazardous waste units in accordance with RCRA and CERCLA, between EPA and DOE
Ohio Director's Final Findings and Orders for Integration	1999	Integrates five RCRA closures into the RCRA Corrective Action Program. Provided for integration of groundwater monitoring and surveillance; maintenance of RCRA and solid waste units; amended in 2011 to update regulatory citations and include the D&D contractor
Ohio Director's Final Findings and Orders [for Depleted Uranium Hexafluoride]	2008	Requires DOE and assigned parties to generate and comply with the Depleted Uranium Hexafluoride Management Plan; amended in 2011 to add/remove assigned parties; and the 2004 and 2005 amendments were superseded
Ohio Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action (for the Portsmouth Gaseous Diffusion Plant [Decontamination and Decommissioning Project])	2010	Provides the framework for DOE to address the D&D of the GDP and support facilities using the CERCLA process; amended in 2011 with revisions to Attachments G, H, and I, corrected inadvertent omissions, reflected current strategy of documentation; and amended in 2012 with a revision to Attachment H

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended  
 D&D = decontamination and decommissioning  
 DOE = U.S. Department of Energy  
 EPA = U.S. Environmental Protection Agency

GDP = gaseous diffusion plant  
 Ohio EPA = Ohio Environmental Protection Agency  
 RCRA = Resource Conservation and Recovery Act of 1976, as amended  
 TSCA = Toxic Substances Control Act of 1976

The existing Ohio Consent Decree, signed in August 1989 by the Ohio Environmental Protection Agency (Ohio EPA) and DOE, requires DOE to complete investigations to determine the nature and extent of any environmental contamination within identified Resource Conservation and Recovery Act of 1976, as amended (RCRA) solid waste management units at PORTS, complete cleanup alternative studies, and implement corrective actions as needed.

Coincident with the Ohio Consent Decree signed in 1989, DOE established the Environmental Restoration Program to identify, control, and remediate environmental contamination at PORTS.

The Environmental Restoration Program addresses inactive sites through remedial action, and it deals with contaminated soil and groundwater associated with active facilities by eventually implementing D&D; groundwater is addressed through the Ohio Consent Decree and D&D addresses structures and residual soil. Because PORTS is a large area, it was divided into four quadrants to facilitate the environmental contamination investigation and cleanup process.

DOE has completed the description of current environmental conditions, RCRA facility investigations (RFIs), and a cleanup alternatives study/corrective measures study for each quadrant. These investigations and reports detail the characteristics of PORTS that are pertinent to the process buildings and complex facilities evaluation and characterized the nature and extent of contamination in soils, surface water, and groundwater at PORTS. The primary sources of information include the RFIs for the four quadrants (DOE 1996a, 1996b, 1996c, 1996d) and the corresponding corrective measures studies (DOE 1998a, 1998b, 2000b, 2001).

As a result of these studies, the focus has been to control contaminant migration and address corrective action or closure of waste units that reside outside the main operating plant area.

In April 2010, DOE and Ohio EPA entered into *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). The DFF&O defines the steps for identifying a range of technical alternatives for the D&D project, and reaching formal decisions on how best to proceed. The steps include developing viable alternatives, evaluating and comparing them, gaining public feedback on the range of alternatives, selecting a final approach, and formalizing the decisions.

### **3. COMMUNITY PARTICIPATION**

The Proposed Plan for the Process Buildings Project at PORTS in Piketon, Ohio, was made available to the public on October 29, 2014. It, along with the supporting Remedial Investigation/Feasibility Study (RI/FS), can be found in the Administrative Record File located at the DOE Environmental Information Center, 1862 Shyville Road, Room 207, Piketon, Ohio. The reports are also available through the DOE Portsmouth Paducah Project Office website [www.pppo.energy.gov](http://www.pppo.energy.gov) and the Fluor-B&W Portsmouth LLC website [www.fbportsmouth.com](http://www.fbportsmouth.com). A public comment period was held from November 12, 2014 through March 11, 2015. In addition, a general public meeting was held on November 17, 2014 to present the Proposed Plan to the community. At this meeting, representatives from DOE and Ohio EPA answered questions about PORTS and potential remedial actions. The DOE answers to comments received at the meeting and comments submitted in writing during the public comment period are included in the Responsiveness Summary, which is Part 3 of this Record of Decision (ROD).

In addition to the formal public comment period, DOE had engaged members of the PORTS Site Specific Advisory Board along with County Commissioners from Pike, Scioto, Ross, and Jackson counties. DOE also worked closely with Tribal Nations, the Ohio Historic Preservation Office (OHPO), the Advisory Council on Historic Preservation, and individual members of the public interested in historic preservation to identify mitigation measures for any impacted historic properties. The Process Buildings RI/FS and the Proposed Plan incorporated consideration of the input received from these various sources.

#### 4. SCOPE AND ROLE OF RESPONSE ACTION

The Process Buildings decision includes 254 buildings/structures and infrastructure within its scope. These buildings and structures are listed in Table 2 and are described in detail in Appendix A of the RI/FS report.

**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Buildings and Structures</b>	
X-104A	Indoor Firing Range Building
X-104B	Protective Forces Office Trailer
X-104C	Protective Forces Shower/Locker Trailer
X-108A	South Portal and Shelter-Drive Gate
X-108B	North Portal and Shelter
X-108E	Construction Entrance Portal
X-108J	West Security Portal
X-108K	North Security Portal
X-108L	East Security Portal
X-111A	SNM Monitoring Portal
X-111B	SNM Monitoring Portal
X-114A	Outdoor Firing Range
X-120H	Weather Station
X-202	Roads
X-204-1	Railroad and Railroad Overpass (excluding DUF <sub>6</sub> utilized track)
X-206A	North Main Parking Lot
X-206B	South Main Parking Lot
X-206E	Construction Parking Lot
X-206H	Pike Avenue Parking Lot
X-206J	South Office Parking Lot
X-208	Security Fence
X-208A	Boundary Fence
X-208B	SNM Security Fence
X-210	Sidewalks
X-215A	Electrical Distribution to Process Buildings
X-215B	Electrical Distribution to Other Areas
X-215C	Exterior Lighting
X-215D	Electrical Power Tunnels
X-220A	Instrumentation Tunnels
X-220B1	Process Instrumentation Lines
X-220B2	Carrier Communication Systems
X-220B3	Water Supply Telemetry Lines
X-220C	Superior American Alarm System
X-220D1	General Telephone System
X-220D2	Process Telephone System
X-220D3	Emergency Telephone System
X-220E1	Evacuation PA System

**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (Continued)**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Buildings and Structures</b>	
X-220E2	Process PA System
X-220E3	Power Public Address System
X-220F	Plant Radio System
X-220G	Pneumatic Dispatch System
X-220H	McCalloh Alarm System
X-220J	Radiation Alarm System
X-220K	Cascade Automatic Data Processing System
X-220L	Classified Computer System
X-220N	Security Alarm and Surveillance System
X-220P	MSR System
X-220R	Public Warning Siren System
X-220S	Power Operations SCADA System
X-230	Water Supply Line
X-230A	Sanitary and Fire Water Distribution System
X-230A3	Ambient Air Monitoring Station
X-230A6	Ambient Air Monitoring Station
X-230A8	Ambient Air Monitoring Station
X-230A9	Ambient Air Monitoring Station
X-230A10	Ambient Air Monitoring Station
X-230A12	Ambient Air Monitoring Station
X-230A15	Ambient Air Monitoring Station
X-230A23	Ambient Air Monitoring Station
X-230A24	Ambient Air Monitoring Station
X-230A28	Ambient Air Monitoring Station
X-230A29	Ambient Air Monitoring Station
X-230A36	Ambient Air Monitoring Station
X-230A37	Ambient Air Monitoring Station
X-230A40	Ambient Air Monitoring Station
X-230A41	Ambient Air Monitoring Station
X-230B	Sanitary Sewers
X-230C	Storm Sewers
X-230D	Softened Water Distribution System
X-230F	Raw Water Supply Line
X-230G	RCW System
X-230H	Fire Water Distribution System
X-230J-1	Monitoring Station
X-230J2	South Environmental Sample Station
X-230J3	West Environmental Sampling Building for Intermittent Containment Basin
X-230J4	Environmental Air Sampling Station
X-230J5	West Holding Pond Oil Separation Station
X-230J6	Northeast Holding Pond Monitoring Facility and Secondary Oil Collection Building
X-230J7	East Monitor Facility (East Holding Pond Oil Separation Building)
X-230M	Clean Test Site
X-232A	Nitrogen Distribution System

**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (Continued)**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Buildings and Structures</b>	
X-232B	Dry Air Distribution System
X-232C1	Tie Line X-342 to X-330
X-232C2	Tie Line X-330 to X-326
X-232C3	Tie Line X-330 to X-333
X-232C4	Tie Line X-326 to X-770
X-232C5	Tie Line X-343 to X-333
X-232D	Steam and Condensate System
X-232E	Freon Distribution System
X-232F	Fluorine Distribution System
X-232G	Support for Distribution Lines
X-235	South Groundwater Collection System
X-237	Little Beaver Groundwater Collection System
X-240A	RCW System (Cathodic Protection System)
X-300	Plant Control Facility
X-300A	Process Monitoring Building
X-300B	Plant Control Facility Carport
X-300C	Emergency Communications Antenna
X-326	Process Building and Instrumentation Tunnel
X-330	Process Building and Instrumentation Tunnel
X-333	Process Building and Instrumentation Tunnel
X-342A	Feed Vaporization Building
X-342B	Fluorine Storage Building
X-344A	UF <sub>6</sub> Sampling Facility
X-344H	Security Portal
X-345	SNM Storage Building
X-501	Substation
X-501A	Substation
X-502	Substation
X-515	330 kV Tie Line Between X-530 and X-533
X-530G	GCEP Oil Pumping Station
X-530T1	Office Trailer
X-533H	Personnel Monitoring Station
X-533 T1	Trailer
X-533 T2	Trailer
X-533 T3	Trailer
X-533 T4	Trailer
X-540	Telephone Building
X-600A	Coal Yard (structures)
X-600D	Utilities Maintenance Field Office
X-605	Sanitary Water Control House
X-605A	Well Field
X-608	Raw Water Pump House
X-608A	Well Field
X-608B	Well Field

**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (Continued)**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Buildings and Structures</b>	
X-611A	Old Lime Sludge Lagoon (structures)
X-611B	Lagoon (structures)
X-611B1	Lagoon Supernatant Pumping Station
X-611B2	Lagoon Supernatant Pumping Station
X-611B3	Lagoon Supernatant Pumping Station
X-614D	South Sewage Lift Station
X-614P	North East Sewage Lift Station
X-614Q	Sewage Booster Pump Station
X-617	South Holding Pond pH Control Facility
X-622	South Groundwater Treatment Facility
X-623	North Groundwater Treatment Building
X-624	Little Beaver Groundwater Treatment Facility
X-625	Groundwater Passive Treatment Facility
X-627	Groundwater Pump & Treatment Facility
X-633 T1	Trailer
X-633 T2	Trailer
X-633 T3	Trailer
X-640-1A	Substation (required for Fire Services)
X-640-2A	Elevated Water Tank Auxiliary Building
X-670	Dry Air Plant
X-670A	Cooling Tower
X-675	Plant Nitrogen Station
X-680	Blowdown Sample and Treatment Building
X-690	Steam Plant
X-700	Converter Shop & Cleaning Building
X-700A	Air Conditioning Equipment Building
X-700B	Sandblast Facility and Observation Booth
X-701E	Neutralization Building
X-701F	Effluent Monitoring Facility
X-705	Decontamination Building
X-705D	Heat Booster Pump Building
X-705E	Oxide Conversion Area
X-710	Technical Service Building
X-710A	Technical Service Gas Manifold Shed
X-710B	Explosion Test Facility
X-720	Maintenance & Stores Building
X-720B	Radio Base Station
X-720C	Paint & Storage Building
X-720 T01	Office Trailer
X-721	Radiation Instrument Calibration
X-741	Oil Drum Storage Facility
X-742	Gas Cylinder Storage Facility
X-744K	Warehouse-K
X-744N	Warehouse N Non-UEA



**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (Continued)**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Buildings and Structures</b>	
X-744P	Warehouse P Non-UEA
X-744Q	Warehouse Q Non-UEA
X-744V	Surplus and Salvage Clean Storage Area
X-744Y	Waste Storage Area
X-744Y T1	Trailer
X-744Y T2	Trailer
X-744Y T3	Trailer
X-744Y T4	Trailer
X-744Y T5	Trailer
X-744Y T6	Trailer
X-744Y T8	Trailer
X-744Y T9	Trailer
X-745B	Toll Enrichment Gas Yard
X-745D	Cylinder Storage Yard
X-745F	North Process Gas Stockpile Yard
X-745G-2	Cylinder Storage Yard
X-747	Clean Scrap Yard
X-747B	Material Storage Yard Pads and Equipment
X-747C	Material Storage Yard Pads and Equipment
X-747D	Material Storage Yard Pads and Equipment
X-747E	Material Storage Yard Pad
X-747H1	Loading Pad
X-747J	Decontamination Storage Yard
X-748	Truck Scale
X-751	GCEP Mobile Equipment Garage
X-760 T1	Trailer
X-760 T2	Trailer
X-1000	Administration Building
X-1000T1	Training Trailer
X-1007	Fire Station
X-1107BV	Interplant Vehicle Portal
X-2230T1	Recirculating Heating Water System (East of Valve Pit "A" and "B")
X-2232E	Gas Pipeline
X-6619	Sewage Treatment Plant
XT-800	GCEP Construction Office Pad
XT-847	Warehouse
B	Pad in Field East of X-109A (near X-740)
C	Old Switch Yard West of X-109A Pad (near X-740)
E	X-700 "0000" Compressor Base Foundation
H	Old Firing Range Shed
I	Peter Kiewit Powder Magazine
J	X-1000 Pavilion

**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (Continued)**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Slabs and Below-grade Structures Remaining from Previous Actions</b>	
X-100	Administration Building (slab and below-grade structures)
X-105	Electronic Maintenance Building (front apron/concrete pad and driveway)
X-106B	Old Fire Training Building (slab and below-grade water tank)
X-120	Old Weather Station (footers)
X-230J1	East Environmental Sampling Building (slab)
X-230J8	Environmental Storage Building (slab)
X-342C	Waste HF Neutralization Pit (below-grade structures)
X-344C	Hydrogen Fluoride Storage Building (foundations and piers)
X-344D	HF Neutralization Pit (below grade)
X-344E	Gas Ventilation Stack (below grade)
X-344F	Safety Building (below-grade structures)
X-530A	High Voltage Switchyard (grounding systems and underground cables)
X-530B	Switch House (slab and below-grade structures)
X-530C	Test and Repair Building (below-grade structures)
X-530D	Oil House (below-grade structures)
X-530E	Valve House (slab and below-grade structures)
X-530F	Valve House (slab and below-grade structures)
X-600	Steam Plant (slab and below-grade structures)
X-611	Water Treatment Plant (slab and below-grade structures)
X-611C	Filter Building (slab and below-grade structures)
X-611E	Clear Well & Chlorine Building (slab and below-grade structures)
X-612	Elevated Storage Tank (below-grade structures)
X-614A	Sewage Pumping Station (slab and below-grade structures)
X-614B	Sewage Pumping Station (slab and below-grade structures)
X-615	Old Sewage Treatment Plant (foundations and piers)
X-616	Liquid Effluent Control Facility (foundations and piers)
X-626-1	Recirculating Water Pump House (slab and below-grade structures)
X-626-2	Cooling Tower (below-grade structures)
X-630-1	Recirculating Water Pump House (slab and below-grade structures)
X-630-2A	Cooling Tower (below-grade structures)
X-630-2B	Cooling Tower (below-grade structures)
X-630-3	Acid Handling Station (saddles and basin)
X-640-1	Fire Water Pump House (slab and below-grade structures)
X-640-2	Elevated Storage Tank (below-grade structures)
X-701A	Lime House (below-grade structures)
X-701D	Water De-ionization Facility (below-grade structures)
X-720A	Maintenance and Stores Gas Manifold Shed (below-grade structures)

**Table 2. Buildings and Structures Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (Continued)**

<b>Facility Identification</b>	<b>Facility Name</b>
<b>Slabs and Below-grade Structures Remaining from Previous Actions</b>	
X-746	Material Receiving and Inspection (portions of above- and below-grade structures)
X-747A	Material Storage Yard (below-grade structures)
X-747G	Precious Metal Scrap Yard (below-grade structures)
X-747H	NW Contaminated Scrap Yard (below-grade structures)
X-750	Mobile Equipment Maintenance Shop (slab and below-grade structures)
GCEP = Gas Centrifuge Enrichment Plant MSR = maintenance service request PA = public address RCW = recirculating cooling water	
SCADA = Supervisory Control and Data Acquisition SNM = special nuclear material UEA = uranium enrichment area	

## 5. SITE CHARACTERISTICS

PORTS straddles a broad, undulating, sediment-filled, ancient river valley (the abandoned Portsmouth River channel) situated approximately 130 ft above the Scioto River floodplain, which lies to the west. The former river valley runs north to south through the industrialized area of PORTS and is bounded on the east and west by ridges and low-lying hills. The surface of PORTS is modified by more recent streams.

### 5.1 GEOLOGY AND HYDROGEOLOGY

The geology of the PORTS Facility has been characterized over the years by the installation of more than 1,600 soil borings and wells. The PORTS area consists of approximately 30 to 40 ft of sediments (silt, clay, sand, and gravel), which formed the Portsmouth River valley. These sediments are in the Gallia sand/gravel and Minford clay/silt seen in Figure 3. Bedrock hills extend to the east and west areas of the DOE reservation outside of the old valley.

The bedrock beneath PORTS is comprised of Bedford shale, Berea sandstone, Sunbury shale, and Cuyahoga shale. No known geologic faults are located in the immediate area. The Sunbury shale, seen as the gray layer in Figure 3, averages about 15 to 20 ft in thickness. The Sunbury shale is considered to be an aquitard, a rather impervious layer that does not easily allow water to pass through.

The Cuyahoga shale, the uppermost bedrock formation in the geographic area, forms the hills surrounding the more flat process area of PORTS. It is moderately-hard, thinly-layered shale, with numerous sandstone layers, that reaches a thickness of approximately 160 ft. The Cuyahoga shale is not found beneath the industrial portion of PORTS. It primarily behaves as an aquitard, although it may be fractured and locally saturated where it is weathered.

Groundwater flow at PORTS is located in the Berea sandstone and the Gallia sand and gravel (both local aquifers).

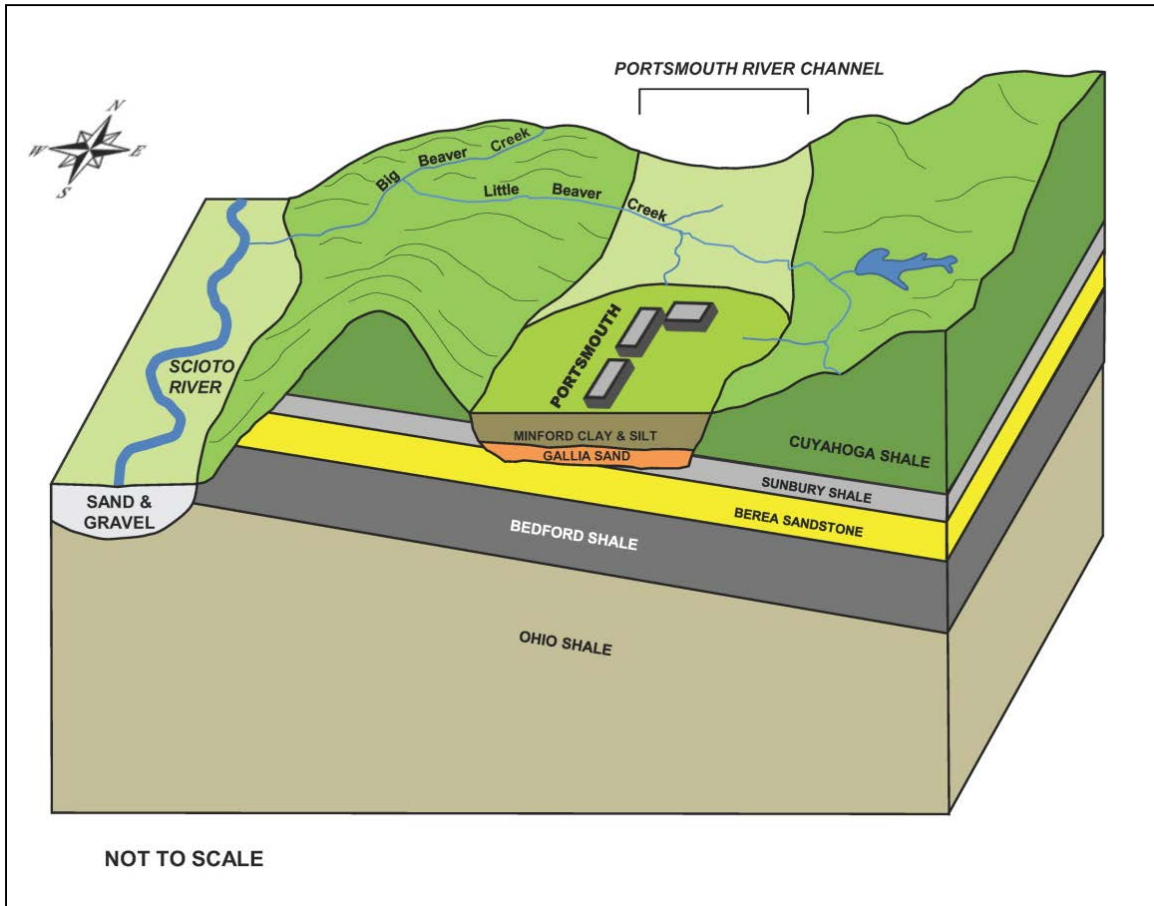


Figure 3. Schematic Block Diagram Showing Geological Relationships at PORTS

## 5.2 INFRASTRUCTURE

Because of the nature of its original mission, PORTS is equipped with significant infrastructure, including a water distribution system, an electrical supply and regional distribution system bringing power to PORTS, a high-pressure fire water system, a wastewater collection system, an existing natural gas service, and numerous existing right-of-ways with pipelines. During D&D, utilities such as steam, power, and water must be maintained to support current tenants (e.g., American Centrifuge Plant and Depleted Uranium Hexafluoride).

## 5.3 CULTURAL RESOURCES

PORTS and its surrounding area have both prehistoric and historic cultural resources. Cultural resources include any prehistoric or historic district, site, buildings, structures, or objects resulting from or modified by human activity. Under federal regulations (36 *Code of Federal Regulations [CFR] 800*), federal agencies must assess the impacts of their actions on historic properties and, if they are present, avoid, minimize, or mitigate adverse effects. Historic properties are cultural resources listed in, or eligible for listing in, the National Register of Historic Places (NRHP) because of their significance and integrity. In 1996 and 1997, a large-scale architectural survey of PORTS was performed. During this survey, 196 architectural properties were identified at 160 PORTS locations. These properties consisted of various buildings, facilities, and structures, all of which are currently identified to be within the scope of this ROD. Based upon their relationship with the historic Cold War mission of PORTS, 33 of the

196 PORTS buildings are considered historic properties. These resources are directly related to the PORTS Cold War mission, namely the enrichment of uranium to the highest levels using the gaseous diffusion process. These resources may be termed historic properties and thereby are eligible for inclusion in the NRHP. For this reason, they meet the National Register Criteria for Evaluation (36 *CFR* Part 60.4), criterion A, due to their association with events (the Cold War) that have made a significant contribution to the broad patterns of our history. Mitigation measures will be implemented to address impacts to these buildings as a result of implementing the selected remedy. These measures are discussed in Section 13.2.2.

To identify archaeological resources located within the PORTS boundary, a series of archaeological surveys of the plant were conducted between 1996 and 2012. Based on the results of those surveys, it has been determined that all of the area within Perimeter Road was significantly disturbed during plant construction. Therefore, potential D&D activities taking place inside Perimeter Road will have no impact on archaeological resources. Several sites have been located outside of Perimeter Road, but the action in this decision has no known impacts to the identified sites.

#### **5.4 NATURAL RESOURCES/ECOLOGY**

Past consultations with the U.S. Fish and Wildlife Service (USFWS) indicate that some of the areas on PORTS may be suitable summer habitat for the Indiana bat (*Myotis sodalis*), a federal- and state-listed endangered species. This is the only federally-listed endangered species whose home range includes PORTS. Information from the Ohio Department of Natural Resource identified several state-listed endangered, threatened, and special interest species within 1 mile of PORTS; however, database searches did not identify any such species within the PORTS boundary. Several surveys have been conducted, including one as recently as 2013, but no Indiana bats have been found. Coordination with the USFWS will ensure steps are taken to avoid impacts to members of this species that might be at PORTS, although none of its habitat is associated with the buildings.

In late 2013, near the completion of the RI/FS process, the northern long-eared bat (*Myotis septentrionalis*) was proposed by the USFWS as federal-listed endangered species. Surveys conducted earlier in 2013 did identify a number of northern long-eared bats in the area proposed for the On-Site Disposal Cell (OSDC). USFWS made a final decision to list the northern long-eared bat as a threatened species in April of 2015. Although there is a potential for the northern long-eared bat to infrequently roost in a building or man-made structure, there is enough alternate and preferable habitat (i.e., trees) available for this species. No threatened or endangered species are anticipated to be impacted by the actions in this decision.

Depending on the method used for demolition, there is the potential that several wetlands may be directly or indirectly impacted. Wetlands are often located in drainage ditches. Controls will be needed during demolition to minimize or mitigate impacts to these natural resources. There are no other sensitive resources expected to be impacted by actions in this decision.

#### **5.5 CONTAMINATION**

The main contaminants contributing to excess lifetime cancer risks (ELCRs) and hazards that must be addressed when cleaning up PORTS include: degreasing solvent (TCE); heavy metals such as chromium, nickel, arsenic, and mercury; PCBs (from electrical transformer oils and ductwork gaskets); radioactive elements, particularly uranium and technetium-99; and asbestos in building materials.

Some operations and maintenance activities at PORTS involved hazardous conditions and the potential for exposure of personnel and the environment to radioactive and chemical ELCRs and hazards.

Radioactive or hazardous materials were spilled or released to the environment from production-related facilities and attendant work activities. Contamination has generally been restricted to the buildings, underlying soil, and groundwater plumes. Contaminated groundwater is currently primarily confined to the DOE property with the use of groundwater containment systems.

## 5.6 DESCRIPTION OF PROCESS BUILDINGS

The uranium enrichment process was initiated in the X-333 Process Building and continued in series to the X-330 Process Building and the X-326 Process Building. The “products” from the enrichment operations, HEU (greater than 20 percent uranium-235) and LEU (less than or equal to 20 percent uranium-235, but typically less than 5 percent), were withdrawn from X-326 and X-333 Process Buildings.

The basic separation equipment for gaseous diffusion is a “stage” (Figure 4) consisting of the following:

- A converter that contains porous separation media (referred to as the barrier material or barrier tubes)
- A compressor driven by an electric motor (to move uranium hexafluoride [UF<sub>6</sub>] gas through the converter)
- A cooler, either internal or external to the converter, to cool the process gas (the cooler in Figure 4 is internal to the converter and therefore not shown)
- Interconnecting piping and a control valve to contain and control the gas flows.

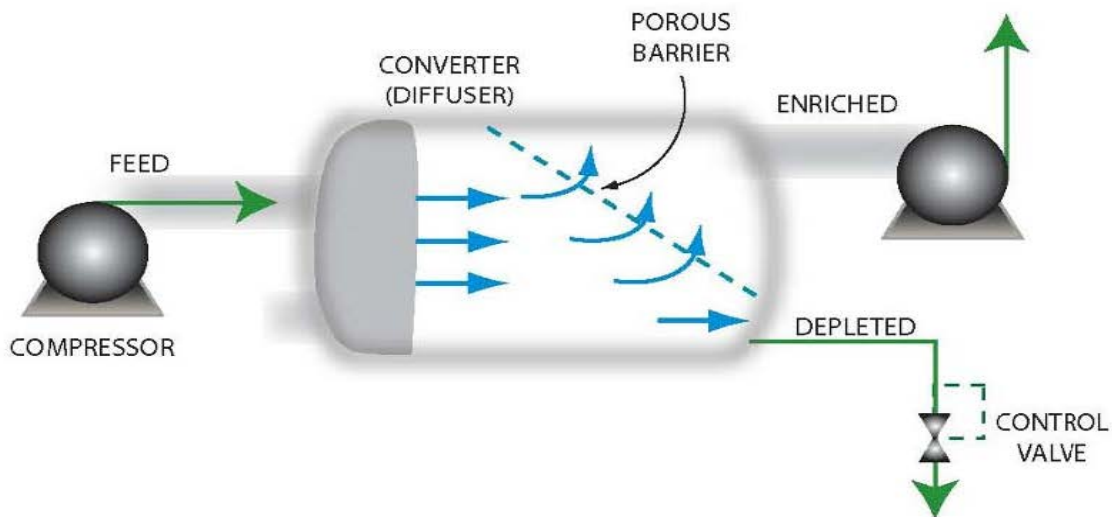


Figure 4. PORTS Gaseous Diffusion Stage Schematic

Stages are grouped into “cells,” which are the smallest groups of stages that can be removed from service, bypassed, and shut down for maintenance or other purposes. Similar to understanding the stage concept, once a cell is understood, the complex can be understood as hundreds of essentially identical cells. The entire series-connected process is commonly referred to as the “cascade.” Table 3 presents the numbers of stages and cells in each building.

**Table 3. Process Building Units, Cells, and Stages at PORTS**

Process Building	Size	No. of Units	Cells per Unit	No. of Cells	Stages per Cell	No. of Stages
X-326	Purge	0.5	20	10	6	60
X-326	X-25 <sup>a</sup>	6.5	20	130	12	1,560
X-326	X-27	3	20	60	12	720
X-330	'0' (or X-29)	6	10	60	10	600
X-330	'00'(or X-31)	5	10	50	10	500
X-333	'000'(or X-33) <sup>b</sup>	8	10	80	8	640
<b>Totals</b>		29		390		4,080

<sup>a</sup>Smallest equipment

<sup>b</sup>Largest equipment

The X-333 stages, designated as “X-33” size and/or “000” size, have the largest process equipment (Table 3). The stages in the X-330 Process Building are configured as they are in X-333 but are not as large. They are designated as “X-29” and “X-31” size and/or “0” and “00” size. The equipment in the X-326 Process Building is much smaller and has coolers separate from the converters. The size designations are “X-27” and “X-25.”

In each of the process buildings, the process equipment is on the second (cell) floor. Controls, power transformers, utilities, and auxiliary systems are located on the first (operating) floor. The cascade cooling systems, lube and hydraulic oil systems, and building ventilation systems are noteworthy because of their size. Ventilating air systems, including hundreds of supply fans, recirculating exhaust fans, and roof exhaust fans, were needed to maintain building temperature control.

Process equipment, including converters and compressors in the PORTS process buildings, contained solid deposits of uranium compounds at the time of plant shutdown in 2001. A project was completed to reduce the size of the uranium holdup deposits in the equipment, but some deposits remain. The primary radiological contaminants within the process buildings are uranium isotopes (uranium-234, uranium-235, uranium-238) and technetium-99.

Exterior surface uranium contamination exists in all three PORTS process buildings. Both fixed and removable contamination can be found on the operating and cell floors. Surface technetium-99 contamination can be found primarily in the southern portion of the upper floor in the X-326 Process Building.

PCBs are anticipated in X-326, X-330, and X-333 transformers, electrical switchgears, storage tanks, capacitors, and potentially wiring once PCB oils have been drained from these systems. The ventilation ducts and PCB oil collection systems are known to contain oil and radionuclide contamination. PCB-impregnated gaskets can also be found in other buildings along with PCBs in transformers and fluorescent light fixture ballasts.

Asbestos-containing materials are present in exterior transite siding on buildings. Large amounts of transite are also in cell housing siding inside the process buildings. Asbestos is also found in thermal insulation and floor tile.

### **5.7 DESCRIPTION OF FEED, TRANSFER, AND SAMPLING FACILITIES**

Five buildings make up the feed, transfer, and sampling facilities group of buildings. UF<sub>6</sub> gas was fed to the process buildings in aboveground piping (tie lines) from feed plants. Steam heat was used to vaporize the UF<sub>6</sub> in autoclaves. UF<sub>6</sub> was removed from the cascade with compression/liquefaction systems that raised the gas pressure and then lowered the temperature to the liquefaction point.

Known or potential radiological contaminants associated with these and other facilities include uranium and low levels of technetium-99, neptunium-237, and plutonium-239. Known or potential chemical contaminants include asbestos in transite siding, thermal insulation, and floor tile; surfaces covered with lead-based paint; PCBs in ventilation system gaskets, transformers, substations, and fluorescent light fixture ballasts; and mercury in light bulbs and switches.

### **5.8 DESCRIPTION OF PRIMARY LABORATORY, MAINTENANCE, AND EQUIPMENT CLEANING FACILITIES**

Facilities were provided to maintain contaminated and non-contaminated process and auxiliary equipment; disassemble and decontaminate process equipment; clean and decontaminate small parts; clean UF<sub>6</sub> cylinders; recover uranium; test and inspect equipment; provide technical, production, and development support; and house spare parts and expendables. The 14 buildings or structures in this group were part of the X-700, X-705, X-710, and X-720 Complexes. Standard industrial contaminants, uranium, and construction materials such as PCBs and asbestos are expected.

### **5.9 DESCRIPTION OF SUPPORT FACILITIES**

In addition to the above process buildings and complex facilities, support buildings/structures and systems are located throughout PORTS. These include administrative buildings; water treatment, storage, and distribution structures; sewage collection and treatment buildings/structures; electrical distribution systems and structures; miscellaneous utilities; infrastructure; storage and warehouse buildings and yards; and environmental monitoring and treatment facilities. Standard industrial contaminants and construction materials such as PCBs and asbestos are expected.

### **5.10 PROJECT WASTE VOLUMES AND WASTE FORMS**

The volume of waste and material anticipated to be generated from D&D of the facilities included within the scope of this decision is estimated to be approximately 1.34 million in-place cy including 53,000 cy of residual soil. In-place volumes refer to estimated volumes prior to remediation with no bulking factor applied. Most material increases in volume once demolished or excavated and placed in a container. The volume estimates evolved from field studies, process knowledge, facility walkdowns (including measurements of building structures and components), and engineering studies, including review of as-built drawings.

The vast majority of waste and material volume (i.e., approximately 83 percent or 1.0 million cy), including residual soil, expected to be generated during D&D of PORTS will originate from the three process buildings (X-326, X-330, and X-333). The waste volumes include the structure of each facility, all process and industrial equipment within each facility, facility slabs, and other subsurface features. Buildings/structures outside of the process buildings make up approximately 17 percent (225,000 cy) of the total anticipated waste.



## 6. CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USES

PORTS is currently an industrial facility, and industrial reuse of PORTS is the current and reasonably anticipated future land use. DOE provided a grant to Ohio University to significantly engage the community on the future of PORTS. This effort was called the PORTSfuture Project; the full project report can be found at [www.portsfuture.com](http://www.portsfuture.com). This study confirmed that jobs and economic concerns are the most important issues that the region faces, as evidenced by the following statistics:

- 83 Percent of a 998-person survey listed jobs/economy/business development as the most important issue to this community.
- Considering the role of jobs and the economy, more than 75 percent of 747 survey respondents indicated that PORTS is very important to the future of the community.
- After extensive work to create community-driven future use scenarios for PORTS, 95 percent of the votes were cast for some type of job-creating future use.

Beneath the facility, the groundwater yield is often too low, because of low aquifer transmissivity, to support municipal or industrial water supplies. Domestic water supplies are obtained from unconsolidated deposits in the pre-glacial buried valley aquifer, major tributaries of the Scioto River, or fractured bedrock encountered during drilling.

## 7. SUMMARY OF SITE RISKS

The RI/FS presents a streamlined evaluation of the potential threat to human health, safety, and the environment from the no-action conditions associated with the buildings and structures that would create waste within the scope of this decision. Because of the nature of the decision, the DFF&O provided that a streamlined risk evaluation was sufficient to determine if action was needed. This streamlined evaluation of potential threats to human health and the environment is based on no-action conditions. Under these conditions, the former GDP buildings/structures and infrastructure at PORTS are assumed to no longer undergo surveillance and maintenance (S&M). Existing security and DOE access controls are eliminated, and the resultant condition is that the facilities degrade and ultimately release currently contained contamination. For the process buildings and complex facilities, this streamlined evaluation has used PORTS-specific risk guidance for conducting both human health and ecological risk assessments. The human health portion of the evaluation is based on *Methods for Conducting Human Health Risk Assessments and Risk Evaluations at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE 2013a). The ecological portion of the evaluation is based on *Methods for Conducting Ecological Risk Assessments and Ecological Risk Evaluations at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE 2013b).

### 7.1 HUMAN HEALTH RISK ASSESSMENT

The risk evaluation used the sources, migration pathways, and potential receptors described in the RI/FS report to develop a conceptual site model (Figure 5) to understand the potential threats under the no action scenario.

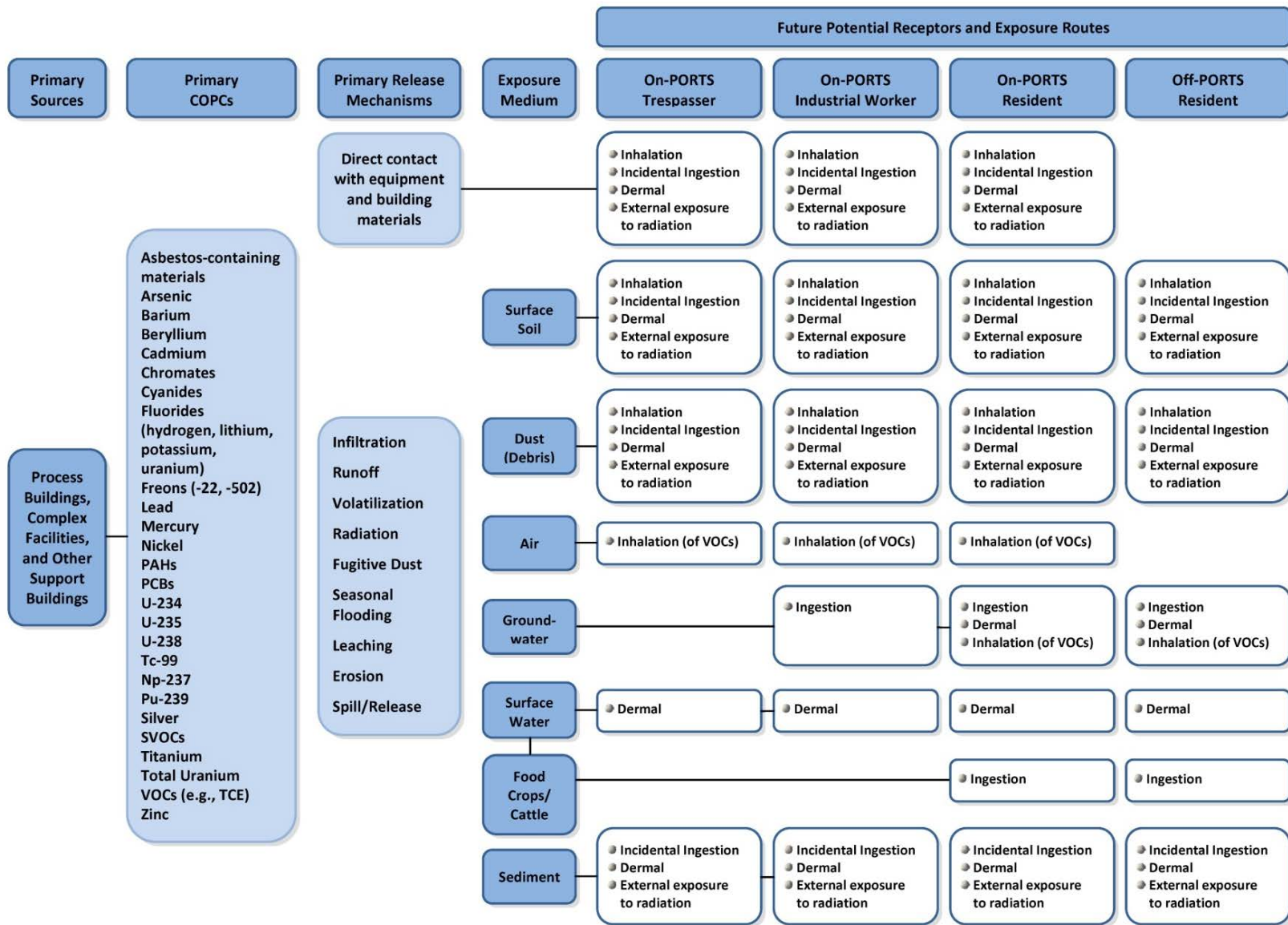


Figure 5. PORTS Conceptual Site Model for Human Receptors

The process buildings, complex facilities, and supporting facilities contain numerous radiological and chemical contaminants that are known carcinogens and/or toxicologically hazardous substances. Under the reasonably anticipated future use scenarios, it is anticipated that the expected concentrations of contaminants of concern (COCs) in all applicable exposure media for receptors presented in this streamlined evaluation of threats to human health are at levels exceeding typical risk-based standards (DOE 2013a). Table 4 shows the potential completed pathways for the COCs discussed above, should the buildings be allowed to deteriorate and no action is taken to remediate the buildings and complex facilities. Unacceptable exposures to human receptors from release of these contaminants are likely to occur if no action is taken to remediate these buildings and facilities. As noted in Table 4, potential exposures to contaminants present within and on equipment and building materials likely result in unacceptable risks to all three on-PORTS receptors. In addition, potential exposures to contaminants in residual soil likely result in unacceptable risks to an on-PORTS industrial worker and an on-PORTS resident. Contaminants in building waste may be a future risk to on-PORTS trespassers.

**Table 4. Summary of Building Contaminants of Concern and Potential Completed Pathways at PORTS**

Media	COC	On-PORTS	On-PORTS	On-PORTS
		Trespasser	Industrial Worker	Resident
		Exposure Route		
Building Waste	ACM	Inhalation	Inhalation	Inhalation
	PCB	Ingestion/Dermal	Ingestion/Dermal	Ingestion/Dermal
	TCE	Inhalation	Inhalation	Inhalation
	Uranium	Ingestion/Inhalation	Ingestion/Inhalation	Ingestion/Inhalation
	U Isotopes	Ionizing Radiation	Ionizing Radiation	Ionizing Radiation
	Tc-99	Ionizing Radiation	Ionizing Radiation	Ionizing Radiation
	Chromium	Ingestion/Inhalation	Ingestion/Inhalation	Ingestion/Inhalation
Soil/Sediment	PCB		Ingestion/Dermal	Ingestion/Dermal
	Uranium		Ingestion/Inhalation	Ingestion/Inhalation
	U Isotopes		Ionizing Radiation	Ionizing Radiation
	Chromium		Ingestion/Inhalation	Ingestion/Inhalation
Groundwater	TCE		Ingestion	Ingestion
	Tc-99		Ingestion	Ingestion
	Uranium		Ingestion	Ingestion
	Chromium		Ingestion	Ingestion/Inhalation

Tc-99 = technetium 99  
 U = uranium

ACM = asbestos-containing material  
 COC = contaminant of concern  
 PCB = polychlorinated biphenyl

PORTS = Portsmouth Gaseous Diffusion Plant  
 TCE = trichloroethene

## 7.2 ECOLOGICAL RISK ASSESSMENT

The streamlined ecological risk assessment consisted of a review of historical ecological risk assessments conducted at PORTS. The result of the original baseline ecological risk assessment (BERA), completed earlier under the Ohio Consent Decree, illustrates which contaminants have historically had the potential to impact ecological receptors at PORTS. Some of these contaminants are from historical building releases, which could indicate the types of impacts that may be seen in the future under a no-action alternative. For Quadrants II and IV, the COCs identified in the BERA were chromium, mercury, and PCBs. Sufficient quantities of these contaminants may remain in buildings and associated waste in these quadrants to cause increased impacts to receptors if they are released and migrate to associated exposure

media. It is likely that PCB concentrations in the PORTS environment would increase from facilities in these quadrants in the future if no action is taken on the buildings and associated waste. Wildlife communities could be impacted from future releases. Chromium and mercury concentrations are also likely to increase as the buildings degrade and release contaminants. Therefore, based on PORTS operations and the likelihood of further releases of these contaminants into the environment in sufficient quantities, chromium, mercury, and PCBs are identified as COCs for the qualitative buildings ecological risk assessment.

In the BERA, no unacceptable risks from past operations were identified for ecological endpoints in the Big Run Creek watershed (northwestern or western tributaries). There were indications of zinc toxicity impacts to the alluvial soil plant communities in the southwestern tributary (Quadrant I). Zinc is not identified as an ecological COC from facilities within this quadrant. Based on these results, it is unlikely that further releases from buildings or waste would impact ecological receptors. No ecological COCs from Quadrants I and III are identified for the buildings.

The results of this qualitative, streamlined evaluation of threats to ecological receptors indicate that there are potential unacceptable impacts to PORTS ecological receptors from the no-action alternative.

The response action selected in this ROD is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

## **8. REMEDIAL ACTION OBJECTIVES**

Remedial action objectives (RAOs) set goals that ensure protection of human health and the environment. The purpose of this action is to make a remediation decision to address all buildings/structures and infrastructure identified in the DFF&O, Attachment H. Before response action alternatives were developed for consideration, a list of RAOs that must be achieved was identified. According to U.S. Environmental Protection Agency (EPA) RI/FS guidance (EPA 1988), RAOs consist of medium-specific goals for protecting human health and the environment. There are no chemical-specific applicable or relevant and appropriate requirements (ARARs) to guide selection of medium-specific goals as part of RAOs for this action because this decision is not an environmental remediation decision. Such goals are not appropriate for consideration of building demolition. However, the DFF&O recognizes that the goal of any alternative must be to meet ARARs, be protective, and be cost-effective.

Broad RAOs were developed. Consideration was given to the fact that PORTS is most likely to be used as an industrial facility in the future and that natural ecological habitats would be prevalent outside of the industrialized area. The RAOs for this action are as follows:

- Protect human health to a cumulative ELCR level of  $1 \times 10^{-5}$  and a cumulative hazard index of 1 for an industrial user, and protect ecological species by removing building or structure contamination that could pose a future unacceptable threat to an industrial worker or ecological species
- Protect surface water and groundwater from further degradation resulting from migration of contaminants to surface water and through the soil column to groundwater.

## 9. DESCRIPTION OF ALTERNATIVES

Two alternatives were developed for evaluation in the RI/FS. These were the no-action alternative and an alternative that demolishes the buildings, treats as necessary, and packages the waste for final disposition.

### 9.1 ALTERNATIVE 1 – NO ACTION

Alternative 1 is the no-action alternative. The no-action alternative is required to establish and document baseline conditions and provide a basis for comparison to the other remedial action alternative. This alternative consists of no D&D of the buildings/structures, their contents, or infrastructure. Under no action, buildings and structures would eventually degrade, resulting in releases of contaminants and their migration to areas where exposure to human and ecological receptors may occur. Further, this alternative does not include controls to prevent access to the buildings, structures, their contaminants, or the associated physical hazards they present. The following are key components of this alternative:

- Buildings/structures, infrastructure, and associated equipment would not be removed or demolished but instead would be left to degrade.
- The radiological and hazardous contaminants associated with the structures and associated equipment would remain.
- No surveillance or maintenance of the buildings/structures and infrastructure to prevent degradation or migration of contaminants would occur.
- No DOE access controls would be implemented to control access to radioactive and hazardous waste contaminants or physical hazards.

### 9.2 ALTERNATIVE 2 – REMOVE STRUCTURES, TREAT AS NECESSARY, AND PACKAGE WASTE FOR FINAL DISPOSITION

This alternative includes the removal of stored waste, materials, hazards, and large or specialized equipment. It also includes controlled demolition of the buildings/structures; characterization and controlled demolition of infrastructure, if required; packaging of the waste for disposition, and recycle and/or reuse of buildings or structure materials, as appropriate. Roughly 1.3 million cy of waste is expected to be generated along with residual soil. The alternative also includes preparation of materials for recycling and/or reuse, including decontamination and segmentation. If DOE's recycling proposal requires modification of any regulatory documents (e.g., proposed plan, decision document, remedial design, etc.), DOE will submit its proposed modification to Ohio EPA for concurrence and/or approval, as applicable.

If a reuse potential for a building/structure or infrastructure is identified in the future, and the facility is shown to be free of contamination according to DOE Order 458.1 and applicable portions of DOE Order 5400.5, this alternative could be modified to remove the building/structure or infrastructure from the scope of the decision.

Key components of this alternative include the following:

- Requires physical barriers, surveillance, maintenance, and monitoring activities to continue before and during demolition in an individual demolition area until demolition is complete or protective levels are met in that area.

- Requires additional building characterization to be performed, as needed, to support remedial design, develop worker safety protocols, and facilitate segregation of waste streams and waste disposition planning. The amount of characterization will depend on the historical use, available process knowledge, and the anticipated disposal facility. An appropriate amount of characterization will be specified during the remedial design phase and such remedial design plans will be submitted for Ohio EPA concurrence and/or approval, as applicable.
- Provides for demolition preparation activities, and allows for trailers, equipment, and support facilities/structures to be installed as needed. Requires temporary structures to be evaluated to determine if such construction meets the definition of D&D in the DFF&O. If such construction meets the definition of D&D in the DFF&O, the structure would need to be added to the DFF&O, Attachment H through a modification to the DFF&O. If added to Attachment H of the DFF&O, the structures would then be demolished, as part of this decision, upon completion of the project, if there is no future planned use for the structure.
- Provides for the removal and packaging of asbestos-containing material, as appropriate, in preparation for waste acceptance criteria (WAC)-compliant disposal.
- Provides for the draining and packaging of remaining fluids (e.g., lubricating oils, fuels, and liquid chemicals from equipment and tanks) for WAC-compliant disposal.
- To the extent practicable and in compliance with ARARs, provides for the removal of some materials within the buildings, including those listed above, for packaging and preparation for dispositioning prior to building demolition. Other materials will be left in the building to be demolished with the rest of the structure. Predemolition removal of these materials will allow for waste segregation, as necessary, for appropriate disposal. In some cases, predemolition removal of some items will be done to improve the safety of demolition workers.
- Provides for the decontamination of buildings/structures and infrastructure components as needed to protect workers, meet regulatory requirements, facilitate material recycle and/or reuse or demolition, or meet disposal facility WAC. Construction of any necessary facilities to support the decontamination activities is included.
- Provides for the deactivation or rerouting of utilities and specialty systems (e.g., criticality alarms and security alarms) in concert with termination of need. New utilities may need to be installed as part of this provision to make sure current tenants and D&D workers have access to such utilities (e.g., water, power). Requires that any new structures installed as part of this provision be evaluated to determine if such new construction meets the definition of D&D in the DFF&O. If such construction meets the definition of D&D in the DFF&O, the structure would need to be added to the DFF&O, Attachment H, through a modification to the DFF&O. If added to Attachment H of the DFF&O, the structures would then be demolished, as part of this decision, upon completion of the project, if there is no future use planned for the structure.
- Provides for the removal of process gas equipment (PGE) and/or piping from the three process buildings (X-333, X-330, and X-326) if required to meet transportation requirements, disposal facility WAC requirements, or if needed to recover recyclable/reusable materials from the PGE. Allows for the disassembly and/or size reduction of the PGE and piping and the removal and treatment (as needed) of the uranium deposits or the recyclable/reusable materials on Site. The removed PGE and uranium deposit materials will be packaged for transportation and disposal in accordance with the

applicable WAC, while recoverable materials will be prepared as necessary for eventual recycling and/or reuse.

- Provides for the removal and size reduction of oversized auxiliary equipment, as appropriate.
- Provides for the cutting or disconnecting of piping and electrical cables leaving the designated buildings/structures footprints.
- Requires controlled demolition of the above-grade buildings/slabs, structures, and infrastructure listed on Attachment H of the DFF&O, unless an alternate use that is deemed protective is found for one or more of them. Also requires removal or decontamination of subsurface structures and infrastructure if contaminated and not protective of human health and the environment as required by the RAOs. Provides for the removal of all other subsurface structures and infrastructure. However, if consistent with the RAOs, DOE may consider leaving specific subsurface structures or infrastructure in place with Ohio EPA concurrence and/or approval, as applicable. The actual methods of controlled demolition will be specified during remedial design.
- Provides for the removal and management of residual soils, as described in Paragraph 5(e)(3) and 5(e)(4)(ii) of the DFF&O.
- In accordance with ARARs, requires the use of controls to minimize fugitive dust during demolition and to control and monitor storm water runoff.
- Allows for the rubblizing of concrete for use as fill at PORTS, in accordance with ARARs, either on Site or as fill at the OSDC.
- Provides for the segregation and size reduction, treatment, and packaging of waste streams by waste type, in accordance with ARARs and disposal facility WAC in preparation for disposition.
- Allows, at DOE's discretion, for the consideration and preparation of equipment or recyclable materials for recycling and/or reuse, in accordance with ARARs.
- Requires demolition areas to be backfilled or graded, as needed, to promote drainage, and seeded, if appropriate, to promote revegetation.
- Provides for the use of decontamination, subsidence avoidance/size reduction, and contaminant immobilization treatment technologies on a waste stream-by-waste stream basis to reduce potential exposure hazards to demolition workers; reduce the volume of contaminated waste; meet disposal facility WAC; meet transportation requirements for off-Site shipment; or allow future recycle and/or reuse of equipment, materials, or buildings. Requires use of treatment methods that are in compliance with ARARs.
- Because the Waste Disposition ROD has been finalized before the Process Buildings Project ROD, wastes from the Process Buildings Project ROD will be disposed in accordance with the Waste Disposition Project ROD. Transportation and disposal of waste or materials is included in the Waste Disposition Project ROD (DOE 2015). Waste generated from the Process Buildings Project ROD that meets the Ohio EPA-approved on-Site disposal cell WAC will be disposed on Site in accordance with the Waste Disposition ROD and Paragraph 12.b of the DFF&O.

Long-term institutional controls may be required under this remedy if necessary to ensure protectiveness, in compliance with ARARs.

The expected outcome of this alternative is removal of PORTS buildings, structures, and supporting infrastructure, along with recycling and/or reuse at DOE's discretion.

## **10. SUMMARY OF COMPARATIVE ANALYSIS OF ALTERNATIVES**

This comparative analysis evaluates the relative ability of the alternatives to meet the nine Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) and other evaluation criteria.

### **10.1 CERCLA CRITERIA**

#### **10.1.1 Overall Protection of Human Health and Environment**

This evaluation criterion assesses each alternative's ability to protect human health and the environment and comply with project-specific RAOs.

Alternative 1, no action, is not considered to be protective. It allows the continued degradation of buildings/structures and infrastructure and the accumulation of waste across PORTS. This waste and the associated contaminants would pose a future unacceptable risk to on-PORTS receptors, both human and ecological. Risk is primarily from future incidental ingestion of soils contaminated by radionuclides or from ingestion of underlying groundwater contaminated after a future release. Alternative 2 (remove structures, treat as necessary, and package waste) is protective when combined with the waste disposal action selected in the Waste Disposition ROD. Human health and environmental risks during demolition and packaging will be controlled by compliance with ARARs/to-be-considered (guidance) (TBCs) and PORTS-specific work plans subject to Ohio EPA concurrence and/or approval, as applicable. Long-term protection will be provided by removing contaminated buildings/structures, infrastructure, and associated equipment; treating as needed, and packaging waste for appropriate disposition of the waste in accordance with the Waste Disposition ROD.

#### **10.1.2 Compliance with ARARs/TBCs**

This criterion addresses compliance with federal and state environmental requirements that are either applicable or relevant and appropriate. ARARs that significantly impact compliance of an alternative include those related to protecting the community and environment during implementation of demolition activities as well as regulations concerning packaging and preparing various kinds of waste for transportation. Appendix A contains the location- and action-specific ARARs/TBCs for the selected remedy. Section 13.2 provides more details on how the ARARs are met.

No ARARs/TBCs are directly associated with the no-action alternative. Alternative 2, which removes buildings/structures and infrastructure, treats as needed, and packages waste for final disposition, will meet all ARARs/TBCs. No waivers are needed.

#### **10.1.3 Long-term Effectiveness and Permanence**

This criterion evaluates an alternative's ability to achieve overall reduction in risk to human health and the environment and to provide sufficient long-term controls and reliability. It considers the degree to which the alternative provides sufficient engineering, operational, and institutional controls; the reliability of those controls to maintain exposures to human and environmental receptors within protective levels; and the uncertainties associated with the alternative over the long term.



The no-action alternative is not effective at achieving the RAOs. An unacceptable long-term risk would remain from contamination in the buildings/structures and infrastructure and from building materials such as transite siding. Alternative 2 is effective at protecting human health and the environment in the long term. Contaminated buildings/structures, infrastructure, and equipment will be demolished, treated as needed, and packaged appropriately for on-Site or off-Site disposal. There will be no need for long-term S&M or monitoring. The demolition areas will be recontoured and seeded to promote surface water runoff.

#### **10.1.4 Reduction of Toxicity, Mobility, or Volume through Treatment**

This criterion reflects the statutory preference for remedial action alternatives to substantially reduce toxicity, mobility, or volume of hazardous substances through treatment. The no-action alternative is not effective at reducing toxicity, mobility, or volume through treatment because no such activities are performed. Alternative 2 includes decontamination, subsidence avoidance/size reduction, and contaminant immobilization as treatment technologies used waste stream-by-waste stream to reduce potential exposure hazards to demolition workers, reduce the volume of contaminated waste, meet disposal facility WAC, meet U.S. Department of Transportation (DOT) requirements for off-Site shipment, or allow future recycle and/or reuse of equipment, materials, or buildings. Only treatment methods that are in compliance with ARARs in accordance with the DFF&O will be used. If needed, treatment to contain removed deposits will result in reduction of contaminant mobility for this very small but very contaminated waste stream.

#### **10.1.5 Short-term Effectiveness**

This criterion addresses the effects on human health and the environment posed by implementing the alternative. Potential impacts are examined, as well as appropriate mitigation measures for maintaining protectiveness for the community, workers, environmental receptors, and potentially sensitive resources.

The no-action alternative would present no specific short-term risks or benefits to the community or workers. With Alternative 2, potential risk to the public could result from runoff or windborne dispersion of contaminants, or from an increase in local traffic during demolition operations. These risks to the public will be low because of the robust and conservative protective systems that will be implemented during the project and the only slight increase in traffic. Risk of radiological exposure or physical hazards to workers will be minimized by understanding the contamination in the facilities prior to demolition; complying with approved work procedures, health and safety plans, and regulatory requirements; and work place monitoring. Most short-term risks will be similar and comparable to risks for industrial operations.

Short-term environmental impacts would be the least for the no-action alternative and minimal for the action alternative. Environmental impacts during the implementation of Alternative 2 could result from a spill during equipment or waste handling, or from runoff coming in contact with demolition waste. The risk of a spill is low, and only minor adverse impacts would result because of implementing spill control and countermeasure plans and procedures. Runoff from the demolition sites will be monitored. Vehicles used in the demolition process will cause a minimal increase in pollution and noise levels.

Disturbance of terrestrial resources is expected to be minimal with the action alternative because the land areas are already industrialized. Several wetland areas have the potential to be impacted because of their proximity to buildings or utilities that require removal. Mitigation measures will be implemented to minimize wetland damage and restore wetland areas as needed. The actual wetlands impacted and the acreage affected will be determined during the design phase as the specific building demolition method is developed. Other existing wetlands at PORTS will be restored, enhanced, or preserved to mitigate the

wetlands impacted at a ratio of 1.5 to 1 for nonforested impacted wetlands and a ratio of 2 to 1 for forested impacted wetlands. Removal of the process and support buildings/structures and infrastructure will impact architectural cultural resources. Mitigation measures such as preserving artifacts and creating a photographic record of key buildings have been identified to preserve the historic significance of these buildings and the PORTS gaseous diffusion process.

The duration of Alternative 2 will be based on potential funding and, for the purpose of the alternative evaluation only, is estimated to take 10 to 12 years to complete based on the funding profile from early FY 2012. The only significant impact of an extended schedule would be an increase in costs.

#### **10.1.6 Implementability**

This criterion examines the technical and administrative factors affecting implementation of an alternative. Administrative feasibility addresses the need for coordination with other offices and agencies, including the ability to obtain permits (for off-Site activities) and regulatory agency approvals. Technical feasibility considers difficulties and uncertainties associated with construction and operation of a given technology, the reliability of the technology, the ease of undertaking additional future remedial actions, the ability to monitor effectiveness of remedial action, and the potential risk of exposure from an undetected release.

Alternative 1, no action, is technically implementable, but it is not administratively implementable because it would not comply with DOE Orders. No services or materials would be required to implement the no-action alternative.

Alternative 2 is technically and administratively feasible. The technology is currently available for demolishing the buildings/structures and infrastructure and has been proven at several other radiologically contaminated DOE sites. However, numerous challenges are associated with demolishing the buildings/structures and infrastructure. Characterization, deposit removal, size or void reduction requirements, treatment (as necessary), packaging, site restoration, and deactivation in an operating facility all have significant planning needs. In addition, the development of new processes or procedures might be needed. Removing converters and compressors, segmenting them, and removing uranium deposits will be labor-intensive. However, these activities have been performed at PORTS during gaseous diffusion operations and have been performed at the DOE Oak Ridge facility. Services and materials for Alternative 2 are available.

#### **10.1.7 Cost**

Cost estimates developed to support the detailed analysis are based on FS-level scoping and are intended to aid in comparisons between alternatives. EPA guidance states that these estimates should have an accuracy of +50 to -30 percent (EPA 1988). The cost estimate is based on the scopes of work and assumptions provided in the detailed alternative descriptions in the RI/FS report. The projected present worth cost for removing the structures and packaging the waste is \$1.6 billion. There are no costs for Alternative 1, no action. It is estimated that a 50 percent extension to the schedule of Alternative 2 would result in a 25 percent increase in costs, all for additional S&M and project management activities. Even greater schedule increases could result in higher cost impacts if roofs need to be replaced or other major maintenance activities had to be implemented.

#### **10.1.8 State Acceptance**

Ohio EPA concurs with the selected remedy as it was presented in the Proposed Plan.

### **10.1.9 Community Acceptance**

DOE held a public review and comment period from November 12, 2014 to March 11, 2015, and hosted a public meeting on November 17, 2014 regarding the Process Buildings Proposed Plan. In addition to the verbal comments received in the November 17 public meeting, comments were received by mail, fax, and via email during the comment period. In total, 476 comments were received on the Process Buildings Proposed Plan. Of the total number of comments received, 454 were supportive of the preferred alternative as written in the Process Buildings Proposed Plan. A few additional comments stated no objection to demolition, but expressed concerns about safety during implementation of Alternative 2, or requested more information or emphasis on the process for keeping buildings and infrastructure available for future site uses. Two comments claimed the alternative development and evaluation process was flawed. After considering public comments, none of the comments received persuaded DOE that the final remedy should be different from the remedy proposed. Responses to community comments are found in Part 3 of this ROD, the Responsiveness Summary.

## **10.2 OTHER CRITERIA EVALUATION**

### **10.2.1 Irreversible and Irretrievable Commitment of Resources**

A commitment of resources is irreversible when the impact of the action limits the future options for that resource. An irreversible effect is one where the resource cannot be replaced in a reasonable time frame. Evaluation of the use of fuels, construction materials, land, sensitive resources, and other utilities is typically conducted.

Alternative 1 has no commitment of resources. Alternative 2 has an irreversible and irretrievable commitment of fuel and petroleum products associated with operating heavy equipment. There will be an impact on architectural resources, but the impact will be mitigated.

### **10.2.2 National Environmental Policy Act of 1969 Values**

As required under the DOE Secretarial Policy on National Environmental Policy Act of 1969 (NEPA) (DOE 1994), NEPA values were also considered in the alternative evaluation to provide additional criteria. NEPA values such as impacts on surface water, air, groundwater, etc. are discussed under the CERCLA criteria because they are values of both programs. There are additional unique NEPA values that are evaluated such as environmental justice and socioeconomic impacts. The socioeconomic evaluation includes a discussion of jobs. The cumulative impacts of these alternatives with other activities at or near PORTS are evaluated.

The no-action alternative would result in additional releases of contamination to the environment that, would limit future land use opportunities at PORTS. Alternative 2 has the potential for a beneficial impact through the reindustrialization opportunity that could exist if demolition were completed. The cleanup of PORTS with potential construction at other industrial parks may raise job opportunities in the area. There is the potential for cumulative traffic concerns if the increase in worker commuter traffic is combined with increases in the construction materials or waste truck traffic and rail traffic that will be needed for the Waste Disposition Project. The actions in Alternative 2 do not have effects off the DOE reservation, and the community immediately surrounding PORTS is comparable in characteristics to the other communities in Southern Ohio. Therefore, there are no disproportionately high and adverse human health or environmental effects of this action on minority and low-income populations.

## **10.3 SUMMARY OF COMPARATIVE ANALYSIS**

Table 5 summarizes the CERCLA nine criteria analysis for the alternatives. The most significant differences are in the level of long-term protection afforded by each alternative (Alternative 1, no action, is not protective and Alternative 2 is considered protective) and in the effort and cost required to

implement the alternative. Alternative 1 requires no cost or effort and has no short-term impacts while Alternative 2 has an associated high cost and a technical challenge to implement the remedy cost-effectively, safely, and with minimal to no environmental impacts. Alternative 1 does not pass the threshold criterion for protection of human health and the environment.

**Table 5. Comparative Analysis Summary for Alternatives 1 and 2**

<b>Evaluation Criteria</b>	<b>Alternative 1, No Action</b>	<b>Alternative 2, Remove Structures, Treat as Necessary, and Package Waste for Final Disposition</b>
Overall protection of human health and the environment	Not considered protective. Degrading buildings would release contaminants at levels of concern.	Considered protective. Contaminated buildings/structures and infrastructure will be removed, appropriately packaged, and disposed or be treated in permitted disposal or treatment facilities.
Compliance with ARARs/TBCs	No ARARs (per EPA 1991a, there are no ARARs for a no-action alternative).	Meets all ARARs/TBCs.
Long-term effectiveness and permanence	Not effective at protecting human health or the environment in the long term.	Very effective because contamination sources are removed. No requirement for long-term monitoring or S&M.
Reduction of toxicity, mobility, or volume through treatment	No reduction of toxicity, mobility, or volume.	Limited reduction of toxicity, mobility, or volume achieved by treating waste to meet WAC and DOT requirements.
Short-term effectiveness	No action means no short-term impacts; effective in the short term.	Risk to public, workers, and the environment are controlled by following approved work procedures/plans, regulations, and monitoring. Is effective in the short-term.
Implementability	No implementation required.	Administrative requirements are achievable. Considerable technical challenges are associated with removing process buildings and equipment as well as coordinating removal of hundreds of smaller buildings/structures and infrastructure while supporting other missions. Services and materials are readily available.
Cost	No costs.	Present worth costs are \$1.6 billion. There are no O&M costs.
Other Evaluation Criteria	Loss of architectural resources without recording would be in addition to historical losses at PORTS. Release of contaminants would add to historical releases at PORTS, further degrading soil and groundwater.	Transportation increases with an increased work force could combine with increased truck/rail traffic associated with the disposal alternative. Completion of reindustrialization efforts after D&D could increase job opportunities in the area.

ARAR = applicable or relevant and appropriate requirement  
 D&D = decontamination and decommissioning  
 DOT = U.S. Department of Transportation  
 EPA = U.S. Environmental Protection Agency  
 O&M = operation and maintenance

PORTS = Portsmouth Gaseous Diffusion Plant  
 S&M = surveillance and maintenance  
 TBC = to-be-considered (guidance)  
 WAC = waste acceptance criteria

## 11. PRINCIPAL THREAT WASTES

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes an expectation that lead agencies will use treatment to address the principal threats posed by contamination wherever practicable [NCP §300.430(a)(1)(iii)(A)]. The principal threat concept is applied to the characterization of source materials. Principal threat wastes are those source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. EPA's *A Guide to Principal Threat and Low Level Threat Wastes* (EPA 1991b) states: "Wastes that generally will be considered to constitute principal threats include, but are not limited to, the following:

- **Liquid source material** – waste contained in drums, lagoons or tanks, free product in the subsurface (i.e., [nonaqueous-phase liquids] NAPLs) containing COCs (generally excluding ground water).
- **Mobile source material** – surface soil or subsurface soil containing high concentrations of chemicals of concern that are (or potentially are) mobile due to wind entrainment, volatilization (e.g., [volatile organic compounds] VOCs), surface runoff, or subsurface transport.
- **Highly-toxic source material** – buried drummed nonliquid wastes, buried tanks containing nonliquid wastes, or soils containing significant concentrations of highly toxic materials."

Residual deposits in the PGE have elevated levels of radiological contamination, but this contamination is contained and immobile within the large equipment. A significant effort will be required to access the deposits, and releases from the equipment are unlikely. Therefore, the residual deposits are not considered to be principal threat wastes. No other contamination is present at levels that indicate the presence of principal threat wastes.

## 12. SELECTED REMEDY

This section discusses the rationale for the selected remedy, provides more details about the selected remedy, summarizes the estimated costs for the remedy, and finally discusses the expected outcome of implementing the remedy.

### 12.1 SUMMARY OF THE RATIONALE FOR THE SELECTED REMEDY

Based on all considerations, Alternative 2 is the selected alternative for the process buildings and complex facilities at PORTS. Based on information currently available, DOE has determined that the selected alternative meets the threshold criteria and provides the best balance of tradeoffs with respect to balancing and modifying criteria. DOE has determined that the selected alternative satisfies the statutory requirements of CERCLA §121(b): to (1) be protective of human health and the environment, (2) comply with ARARs, (3) be cost-effective, and (4) use permanent solutions and resource recovery technologies to the maximum extent practicable. The fifth CERCLA §121(b) criterion is to satisfy the preference for treatment as a principal element of the remedy. Treatment opportunities are limited under this alternative because most of the waste has low levels of contamination yet very high volumes. CERCLA guidance acknowledges that treating these types of waste streams may not be cost-effective. Waste treatment may be used to meet the WAC of a disposal facility for small-volume waste streams.

## 12.2 DESCRIPTION OF THE SELECTED REMEDY

The selected remedy includes the removal of containerized waste, materials, hazards, and equipment; controlled demolition of the above-grade buildings/structures (including slabs) and infrastructure; controlled demolition of subsurface features along with residual soil; and treating and packaging of the waste for final disposition (disposal or recycle/reuse). If a reuse potential for a building/structure or infrastructure is identified in the future, the selected remedy includes the opportunity for decontamination for reuse.

Per the requirements of Table 1B of the DFF&O, a remedial design/remedial action (RD/RA) work plan that addresses all aspects of the project and identifies subsequent Remedial Action Implementation Plans for phases of the project will be submitted for Ohio EPA review within 180 days of DOE receiving Ohio EPA concurrence on the ROD, unless an alternate schedule is otherwise mutually agreed to in writing by the parties. However, should it become more appropriate, DOE may also consider submitting multiple RD/RA work plans, with the first one submitted within 180 days of DOE receiving Ohio EPA concurrence on the ROD for those buildings/structures for which DOE is prepared to proceed. In the second case, where DOE will be submitting multiple RD/RA work plans, DOE will request an alternate schedule for submission of the RD/RA work plans. DOE proposes to submit RD/RA work plans for remaining buildings/structures within 90 days of DOE notifying Ohio EPA in writing that DOE is prepared to proceed with a D&D activity of any designated buildings/structures; the aforementioned 90-day period for submitting any such RD/RA work plan will be a Milestone. Additionally, DOE will identify the RD/RA work plans projected to be submitted within the FY, the FY+1, and the FY+2 in the annual submittal required pursuant to Paragraph 20.b of the DFF&O. The various actions will be initiated for each building/structure or groups of buildings/structures by the dates established in the applicable RD/RA work plans.

The D&D approach for the three process buildings (X-326, X-330, and X-333) is presented first. The D&D approach for the remaining buildings/structures and infrastructure is then addressed.

### 12.2.1 Process Building D&D

The process buildings are unique because they contain large quantities of radioactively-contaminated equipment and piping and because of the size and weight of the converters and compressors in the buildings.

**DOE Access Controls and Surveillance, Maintenance, and Housekeeping.** DOE access controls are a part of the demolition remedy once remediation begins until the remedial activities are complete. These controls are already in place and are standard DOE access controls. The controls will be implemented and modified during the course of remedy implementation in accordance with DOE requirements. Long-term institutional controls may be required under this remedy if necessary to ensure protectiveness, in compliance with ARARs.

It will be necessary to maintain the buildings, structures, or infrastructure while they are waiting for D&D. Routine surveillance of the structure and, as needed, maintenance, will ensure that the building is safe to enter and conduct work when it is time to deactivate and demolish the structure. Included in these activities are visual inspections; replacement of moving parts or structural components, such as roofs or portions of pipes; repairs; cleaning; housekeeping, such as trash removal; and other activities needed to keep the buildings, structures, and infrastructure safe for workers.

**Mobilization and Site Preparation.** Mobilization and site preparation will occur as necessary to support D&D activities. This includes actions such as relocation of continuing operations or systems to existing

or temporary facilities; movement or reconfiguration of existing utilities, roads, fences, lighting, and drainage; and erection of temporary facilities and support areas for D&D workers, materials, and equipment. Also included could be the installation of perimeter monitoring systems, storm water retention measures, dust suppression equipment, and runoff controls such as storm drain filtration or blocking. The detailed approach for contaminant migration control, including water and storm water management/control, will be addressed in future project documents. On-Site transportation facilities such as rail spurs or haul roads may need to be upgraded. Decontamination or other processing facilities may need to be constructed. Site vegetation will be removed, as needed. Equipment will be brought to the area. Laydown areas and temporary construction facilities may be constructed.

**Characterization and Data Collection.** Characterization of stored materials, equipment, structures, and residual soils will be performed, if needed to supplement process knowledge, to support worker safety, environmental compliance, and waste management and disposal decisions, and in compliance with ARARs. The specific characterization approaches will be described in sampling and analysis plans (SAPs) submitted to Ohio EPA for review, concurrence and/or approval, as applicable.

Characterization begun under the *Phase I Sampling and Analysis Plan for the Process Equipment Characterization in Support of the Site-wide Waste Disposition Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE 2011a) will continue under a revision to the SAP being developed to support the design and implementation of this Process Buildings decision.

Along with the continuation of the Phase I SAP activities in support of remedy design and implementation, the other RD/RA documents developed after the ROD will further outline when, where, and how any needed waste or safety characterization data will be collected. The DFF&O requires many types of work plans, including the RD/RA work plans, Predesign Study Plans, Regulatory Compliance Plans, and, if needed, Treatability Study work plans; all of these plans are to be submitted to Ohio EPA for concurrence and/or approval, as applicable. The sampling documented in these plans supports various information needs that are required by the DFF&O. In addition, a WAC Implementation Plan will be developed and submitted to Ohio EPA for review to demonstrate how any waste generated will meet the WAC of the appropriate disposal facilities. To support these plans, a number of additional SAPs may be required; if generated, the additional SAPs will be submitted to Ohio EPA for review and concurrence and/or approval, as applicable.

**Hazard Abatement.** Hazardous materials remaining in the process buildings or in the project area will be removed, to the extent practical and as defined in subsequent project documents, prior to building demolition, and will be prepared for appropriate disposal. Hazard abatement activities that have already begun after NEPA reviews will continue until such time as Ohio EPA concurs with the associated post-ROD RD/RA work plan or other document, as applicable. At that time, these activities will be implemented under the DFF&O decision documents.

Predemolition removal of these materials allows for waste segregation, as necessary, and appropriate disposal, or to improve the safety conditions for demolition workers. Some of the types of materials that may be removed prior to building demolition, depending on the WAC of selected disposal facilities, the practicality of early removal, and applicable ARARs include, but are not limited to, the following:

- Universal waste (e.g., mercury switches fluorescent bulbs, batteries)
- Listed hazardous waste

- Hazardous metals in printed circuit boards (contained in the automated data processing equipment in the control rooms and specialty instrumentation such as criticality alarms and UF<sub>6</sub> detectors)
- Asbestos (e.g., pipe insulation, floor tiles, etc.)
- Free liquids, including fuels, coolants, and oils
- Trap media.

The drained transformers, storage tanks, and PCB gaskets contained in the X-326, X-330, and X-333 process ventilation ducts can be demolished with the buildings.

Gas cylinders of various types will be removed prior to demolition, primarily as a worker safety measure. The cylinders will be disposed by venting to the atmosphere (for innocuous gases), returned to vendors for purchased gases, or disposed through specialty vendors. Empty cylinders designated as empty may remain in the building for demolition and size reduction.

Incidental nonfriable asbestos-containing materials that are not practical to remove or cause greater risk to workers during removal than during demolition, and have low potential for fiber release during the D&D process may be left in place through building demolition. Examples of these materials include floor tiles, gaskets, caulking, wire insulation, valve or pump packing materials, brake shoes, and Galbestos sheeting.

Other miscellaneous hazard abatement activities that will occur during predemolition include removal of diesel fuel from generators and removal of coolant from heating, ventilation, and air conditioning systems.

**PGE Removal.** Converters, compressors, coolers, and potentially some valves and process piping will be removed from the buildings as part of the demolition process, including in some instances as a predemolition activity. This effort has started to support characterization for the Waste Disposition Project under the *Phase 1 Sampling and Analysis Plan for the Process Equipment Characterization in Support of the Site-wide Waste Disposition Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*. These PGE removal activities will continue under a revision to the SAP until Ohio EPA has concurred with the Process Buildings RD/RA Work Plan or other appropriate document that describes this effort; any revisions to the SAP will be submitted for Ohio EPA concurrence and/or approval, as applicable. Predemolition removal of these items, where necessary, will allow equipment segmentation and removal of uranium deposits for equipment and piping that cannot meet either DOT requirements or WAC, or allow physical size reduction if required to meet transportation or WAC requirements.

Unless required to be removed because uranium deposits exceed nuclear criticality incredible criteria, the process gas piping and valves are planned to remain in the process buildings for demolition with the building structures, non-process equipment, and piping.

A small number of converters and compressors and piping are likely to require segmentation and uranium deposit removal prior to transportation or disposal. If needed, treatment or additional handling of both the PGE and any removed deposits to meet a WAC is included in the scope of the selected remedy. Removed deposits may be treated, as appropriate, to meet transportation and disposal requirements.

**Utility and System Deactivation.** Deactivation of utilities and specialty systems, such as criticality alarms and security alarms, will occur throughout the predemolition process when they are no longer



needed. While some utilities can be deactivated early in the process, others will require characterization, hazard abatement, and equipment removal to be completed in the building (or a major section of the building) before deactivation. In some cases, it may be necessary to construct temporary utility access or systems to support demolition activities or other PORTS Facility functions.

**Demolition.** Controlled demolition of the process buildings is anticipated to be accomplished using heavy equipment. In cases where there is the potential for interior-of-pipe contamination to be released during the demolition process, this remedy will allow a fixative to be applied internal to the piping, or another contamination migration control method can be used.

Included in the demolition activity is the size reduction or packaging of contents within the building or the project area determined to meet the OSDC WAC. This may include equipment, as discussed above; staged legacy waste outside of RCRA permitted storage areas; and miscellaneous stored materials, either above or below ground. Also included is the size reduction and preparation of any materials with no future use stored outside on slabs that are part of the D&D project.

Concrete could be processed for use as fill while the other waste and equipment is removed and separated, as necessary, from the slabs and rebar. If concrete is not needed as fill, it will remain combined with the remaining waste as it is generated.

The resultant demolition waste will be sheared, crushed, or otherwise disconnected from other components and size reduced to the appropriate size for transport and disposal. These materials will be loaded onto trucks for eventual transport to an appropriate staging or disposal location.

Airborne contamination or dust will be controlled in accordance with ARARs, using dust suppression techniques. Air monitors will be stationed to monitor the effectiveness of airborne contamination controls. Surface and storm water runoff from the demolition area will be monitored, and mitigation measures will be implemented as necessary to comply with ARARs and permits.

Slab and footer removal will begin either when they are accessible or when other subsurface remediation efforts in the area begin. Basements, pits, and recessed truck alleys in the process buildings will be demolished along with associated underground tanks and piping within the footprint of the building. If protective, at-grade or subsurface structures can be considered to be left in place with Ohio EPA concurrence and/or approval, as applicable.

Buried utilities within the footprint of the building or structure will be removed during slab and footer removal in accordance with the RD/RA work plan submitted to Ohio EPA for concurrence and/or approval, as applicable. The area impacted will be determined during subsequent project documents. The remaining systems outside the immediate process building area will be removed when appropriate. Many of these systems (including storm and sanitary sewers) are listed in Attachment H of the DFF&O and, as such, are part of the selected remedy. Some residual soil will need to be removed to complete subsurface actions. Unacceptably contaminated residual soil will be removed and prepared for disposal. Otherwise, soil can be considered for replacement at the area of generation.

Activities needed to prepare materials for recycling such as equipment segmentation and storage of recyclable materials are part of this decision. Recyclable or reusable material will be evaluated for reuse and/or recycling consistent with applicable legal, regulatory, and policy requirements under the Waste Disposition Project decision.

**Waste Packaging.** Once a building or structure is demolished, the waste will either be loaded directly into packages (including trucks) or be staged temporarily prior to being packaged and transported. All packaging will be in compliance with ARARs. Staging of waste will occur in three potential areas: (1) the location of generation, (2) at the OSDC, or (3) at the rail loading station. Appropriate Milestones for disposal of all staged waste destined for off-Site disposal will be set in the RD/RA work plan(s), in accordance with Paragraph 12.a.v of the DFF&O. Staged waste will be controlled in compliance with ARARs. Storm water will be controlled to avoid releases of contamination during rain events. If necessary, some form of dust control may also be needed. The details of these controls will be presented in the RD/RA work plan(s). Staging waste at the Impacted Material Transfer Area is addressed under the Waste Disposition decision.

**Site Restoration and Demobilization.** DOE will develop a spill response plan for all spills not covered by the Contingency Plan. DOE will submit the spill response plan in the RD/RA work plan(s) for Ohio EPA review and concurrence and/or approval, as applicable. When they are no longer needed, temporary roads and laydown areas will be removed and the area will be restored. Equipment and materials used in these activities will be demobilized from the area. A final cut-and-fill operation, if needed, will occur once all actions in the area are complete to allow the area to drain. Backfill could be purchased under this remedy to meet the final end-state requirements. The area will eventually be left with sufficient drainage to meet the requirements of the final restoration design and sufficient top soil to support revegetation efforts. It is not necessary for the area to be returned to original grade.

Temporary site restoration may be used if actions in the area are phased and significant time will elapse between phases. Temporary restoration will be done to ensure that the area is safe for workers and to minimize the migration of any contamination remaining in the area.

### **12.2.2 Remaining Buildings/Structures and Infrastructure D&D**

D&D of the remaining buildings/structures and infrastructure included in the scope of this decision is essentially the same as D&D for the process buildings. The unique differences between the process buildings and the remaining buildings/structures and infrastructure are their construction and use. Additionally, there is the possibility that there would be a future use for one of the remaining structures, so decontamination for reuse is an element of the action for any of these buildings that are identified for reuse. Many process options are available to decontaminate buildings/structures. Floors could be swept, and paint from walls could be scraped to remove contamination.

Controlled demolition of the structures is anticipated to occur with equipment similar to that used for the process buildings. However, the inclusion of unique structures such as water towers may result in the need to use explosives in situations where DOE determines that the use of heavy equipment would not be an effective or safe method. This method of demolition will only be completed by qualified entities.

The majority of the equipment will remain in these buildings/structures to be sheared with the structure during demolition. Equipment/materials or waste within the project area requiring size reduction or treatment prior to disposal can be removed first. DOE may identify some equipment that will be removed early for recycling and/or reuse.

For some of the buildings/structures with significant subsurface features, demolition of the above-grade structures will occur before the subsurface work begins. An option, if the remaining slab or features are contaminated and subsurface remediation is not expected to occur soon, is to coat the exposed contaminated surface with a fixative to bind the contamination until the subsurface remediation occurs.

### 12.3 SUMMARY OF THE ESTIMATED REMEDY COSTS

Estimated total escalated capital costs for the selected alternative are \$1.9 billion while the present value costs are \$1.6 billion. The details are presented in Table 6. Capital costs include those for designing and implementing the remedial action including remedial planning, characterization, deactivation, hazard abatement, equipment removal, demolition, and packaging of the waste, including the deactivation and demolition of temporary facilities erected for D&D. Included in the process buildings D&D costs are efforts to reduce voids and deposit removal and any other treatment that may be needed to render the waste acceptable for recycling or disposal, but the assumptions behind these estimates are only assumptions. Actual void reduction or deposit removal activities and costs will depend on the WAC or transportation requirements in place at the time of implementation and the results of future characterization efforts. There are no operation and maintenance costs.

**Table 6. Cost Estimates for the Selected Remedy**

<b>Project Cost Item</b>	<b>Cost</b>
<b>ESCALATED CAPITAL COSTS</b>	
DOE Services and Infrastructure Support	\$428,700,000
Safeguards and Security	\$223,900,000
D&D of Process Buildings	\$415,600,000
D&D of Balance of Plant (Complex Facilities)	\$460,000,000
Facility Surveillance and Maintenance	\$383,400,000
<b>TOTAL CAPITAL COST</b>	<b>\$1,912,000,000</b>
<b>TOTAL PROJECT COST (PRESENT WORTH)</b>	<b>\$1,625,000,000</b>

D&D = decontamination and decommissioning  
 DOE = U.S. Department of Energy

Estimated costs to perform activities are presented in escalated dollars. Present worth cost provides a basis for comparing alternatives. Escalated costs from the year of performance are discounted at a standard rate (2.9 percent) provided by the Office of Management and Budget (OMB) for 12-year projects (OMB 2010). No contingency costs are included.

The following are assumptions that significantly affect total costs:

- Profit, fees, overhead, staff size, and management efforts are based on rates consistent with those of the current D&D contractor.
- The costs for preparing and placing the waste into the packages are part of this cost estimate. The costs of the actual package are part of the Waste Disposition Project costs.
- A 12-year schedule is assumed for demolition of the process buildings and complex facilities.
- It is assumed that all wastes will meet the on-Site or off-Site disposal facilities' WAC; there are no wastes without a disposal path. It is also assumed that the majority of the waste generated will be disposed at the OSDC.

The information in this cost estimate summary table is based on the best available information regarding the anticipated scope of the remedial alternative. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent

of the actual cost, excluding impacts to costs from schedule delays. Should significant delays to the project occur, the costs may increase beyond the +50 percent accuracy required by the DFF&O. The FS evaluation of cost increases associated with schedule delays showed that a 50 percent increase in the schedule would result in roughly a 25 percent increase in costs. Therefore, a doubling of the schedule would result in a 50 percent increase in costs.

#### **12.4 EXPECTED OUTCOMES OF THE SELECTED REMEDY**

The RAOs will be met by implementing the selected remedy. Removal of the buildings with their associated equipment and materials will remove a future potential source of human health and ecological risk from minimizing the chance of building collapse or access to the building contamination. After completion of this remedy, there is no unacceptable residual risk; therefore, the selected remedy is protective.

Implementation of the selected remedy could have some short-term impacts on the local environment. However, contaminant migration controls in place during demolition, along with mitigation plans to preserve or record architectural resources and wetlands mitigation efforts, will minimize any impacts on the long-term condition of PORTS following completion of the remedy.

### **13. STATUTORY DETERMINATIONS**

The purpose of this section is to provide a brief description of how the selected remedy satisfies the statutory requirements of CERCLA §121 (as required by the NCP §300.430(f)(5)(ii)) and to explain the 5-year review requirements for the selected remedy.

#### **13.1 PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT**

The selected remedy (remove structures, treat as necessary, and package waste for final disposition) is protective. All risk from contamination in the building structures and in associated equipment and materials is reduced through the building/structure and infrastructure removal and preparation for transportation and disposal in an engineered facility designed to be protective of human health and the environment. Human health and environmental risks during demolition, treatment (as necessary), and packaging will be controlled by compliance with ARARs/TBCs and PORTS-specific work plans. Implementation of DOE Orders and requirements provide protection during implementation of the selected remedy. There is no unacceptable residual risk; therefore, the selected remedy is protective.

#### **13.2 COMPLIANCE WITH ARARS**

The list of ARARs for this decision is provided in Appendix A. These ARARs are extensive, but they can be summarized as described in the following subsections.

##### **13.2.1 Chemical-specific ARARs**

Chemical-specific ARARs provide health- or risk-based concentration limits or discharge limitations in various environmental media for specific hazardous substances, pollutants, or contaminants. The scope of this action is D&D of buildings/structures and infrastructure and does not include remediation of environmental media. Therefore, no chemical-specific ARARs are triggered.

### 13.2.2 Location-specific ARARs

Requirements that establish restrictions on permissible concentrations of hazardous substances or establish requirements for how activities will be conducted because they are in special locations have been identified for PORTS wetlands, streams, and cultural resources.

**Floodplains, wetlands, surface water, threatened and endangered species, and mitigation of impacts.** None of the activities associated with the remedial action alternative will be conducted within a floodplain. In addition, the selected alternative will not adversely impact federal- or state-listed or proposed-for-listing threatened or endangered species or their habitat as the proposed action will not occur in an area with habitat and no species have been found in the work area.

Up to seven wetland areas could be impacted during the D&D efforts. These areas include Q1-06 (0.23 acre), Q2-12 (2.028 acres), Q3-46 (0.08 acre), Q3-30 (0.48 acre), Q4-18 (0.322 acre), Q4-22 (0.018 acre), and Q4-26 (0.16 acre). Total acreage of the potentially affected wetlands is 3.318 acres. The demolition method used will impact the number of affected wetlands. These resources will be protected in accordance with the location-specific ARARs and TBCs, as appropriate. Activities will be designed to avoid or minimize impacts to wetlands. Other existing wetlands at PORTS will be restored, enhanced, or preserved into mitigation for any impacted wetlands. Details of the measures, including restoration, enhancement, and preservation ratios, will be incorporated into the remedial design for the locations where impacts are anticipated to occur.

Potential impacts to nearby streams from surface water or storm water runoff are addressed as action-specific ARARs and TBCs. Silt fences and other appropriate erosion control measures will be implemented to control run-on/runoff and minimize concentrations of suspended particulates in storm water. As a result, minimal impacts on the surface water drainage system and surface water quality are expected.

**Cultural Resources and Mitigation of Impacts.** Cultural resources can generally be divided into two broad types: archaeological (below ground) and architectural (aboveground buildings, structures, sites, etc.). Because both aboveground and below-ground activities will occur under the decision, DOE will implement the following approach to take into account the impacts that potential undertakings may have on cultural resources.

As described in Section 5.3, DOE conducted a comprehensive survey of PORTS to identify architectural resources. As part of the architectural survey, an Ohio Historic Inventory (OHI) form was completed for each of the identified 196 architectural resources. These OHI forms were submitted to and recorded by the OHPO. The architectural inventory report documenting the results of the survey was accepted by the OHPO in March 2011 (DOE 2011b).

DOE is currently developing a Historic Context Report that will document the history of the operations and facilities at PORTS from 1952 through the end of the Cold War for preservation purposes. The historic context effort has two goals: to place the role of PORTS in the context of the larger United States nuclear weapons complex, and to place individual architectural resources at PORTS in context as to how they were related to the plant's mission.

DOE also maintains the PORTS Virtual Museum, which provides multimedia documentation of PORTS, its history, operations, oral histories, and its cleanup program, and includes links to published National Historic Preservation Act of 1966 (NHPA) reports. DOE will expand the information on the virtual museum to include information on the prehistoric activities in the area around PORTS by Native

Americans. The Virtual Museum will be actively maintained until the D&D of the site facilities is complete.

The following mitigation activities will be performed to document and comprehensively interpret the DOE-built environment at PORTS:

- Collection and evaluation of items recovered from PORTS facilities for potential future display by DOE or others.
- Public outreach to local school districts and others will also be a mitigation component for the Process Buildings Project. Public outreach efforts are ongoing and will continue until the DOE-Environmental Management mission is complete at PORTS. Outreach includes both active and passive measures, ranging from presentations to the provision of items for display and the publication of documents and updates about the site for members of the public.
- Development of a Comprehensive Summary Report summarizing all NHPA-related studies (prehistoric, historic-era, and DOE-era) to enable a better understanding of the breadth of history at PORTS. This document is in development and will be issued following the ROD.
- Taking of panoramic photographs at regular intervals during and after demolition to be archived with panoramic photos that were taken during plant construction.
- Pursue the placement of two State of Ohio historic markers that will offer information on PORTS history and prehistory. DOE will coordinate with the OHPO on the content of the markers. DOE will also coordinate with a local organization for the placement and maintenance of the historic markers. The markers are proposed for placement in the PORTS vicinity on well-travelled local roads that offer suitable space for safe viewing. DOE will pursue this effort following the issuance of this ROD.

DOE is not pursuing the creation of an Interpretive Center; however, before exiting the site, DOE will consider leaving a building for transfer to a local organization for the development of a multi-purpose facility to contain information about PORTS ranging from the prehistory of the area to the cleanup mission.

### **13.2.3 Action-specific ARARs**

Action-specific ARARs include operation, performance, and design requirements or limitations based on the waste types, media, and removal/remedial activities. This selected remedy includes removal of scrap metal, equipment, building structures, infrastructure, waste materials, and (where necessary) restoration of demolition areas. Treatment and packaging of the waste is also part of this decision.

The action-specific ARARs for this remedy, listed in Appendix A, include requirements related to waste characterization; scrap metal removal; decontamination; waste storage, treatment and disposal; and pretransport preparation of hazardous materials. Requirements under the Clean Air Act (CAA) govern the control of asbestos and/or radionuclide air emissions. All primary wastes (generated from the demolishing of buildings and structures, including hazardous, solid, and construction and demolition debris waste) and secondary wastes (such as contaminated personal protective equipment and decontamination wastes) generated during D&D activities must be appropriately characterized and managed in accordance with ARARs, including State of Ohio laws and regulations; federal Toxic Substances Control Act of 1976 (TSCA), DOE Orders, and CAA requirements; and other requirements as

specified in Appendix A. Hazardous and TSCA waste determinations will be based on available process knowledge, materials of construction calculations, and/or sampling/analysis results. Hazardous and other waste may be accumulated and stored in appropriate storage areas at PORTS consistent with ARARs.

If during implementation of the selected remedy, DOE identifies new methods for treatment not contemplated in the ROD and additional ARARs are identified, DOE shall notify Ohio EPA and amend the ARAR list. It will also be necessary to evaluate the impact of these changes and document them appropriately (e.g., note to file, amend the ROD, etc.).

### **13.3 COST-EFFECTIVENESS**

This discussion explains how the selected remedy meets the statutory requirement to be cost-effective. A cost-effective remedy is one whose costs are proportional to its overall effectiveness. The overall effectiveness of a remedial alternative is determined by evaluating (1) short-term effectiveness, (2) long-term effectiveness and permanence, and (3) reduction in toxicity, mobility, or volume.

The selected remedy is cost-effective. Although expensive, the remedy removes the buildings/structures and infrastructure and associated contamination from PORTS and prepares them for placement in engineered disposal facilities. The buildings/structures are a hazard, both from the levels of contamination present and from their physical presence. If they are not maintained, the buildings/structures will degrade. Long-term maintenance is also expensive so, eventually, the buildings/structures need to be demolished. The method of using heavy equipment instead of explosives (except potentially in limited cases) allows for improved control of potential contamination releases and migration, improving short-term effectiveness. Removing the buildings/structures and infrastructure and associated contamination is effective over the long-term.

### **13.4 USE OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT (OR RESOURCE RECOVERY) TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE**

The buildings at PORTS have low levels of contamination, but the volume of generated waste is anticipated to be large (over 1 million cy). Containment is typically used to address wastes with high volumes and low levels of contamination as treatment to achieve a permanent remedy is not practical. Accordingly, innovative treatment technologies were not specifically evaluated and selected. Handling of the waste, including the need for treatment, will be designed to support the disposal option selected in the Waste Disposition Project. Some degree of treatment and permanence is possible through treatment that may be needed to meet an on-Site or off-Site disposal WAC or transportation requirements. Applied treatment technologies are most likely to be proven technologies that are either already in use at a disposal facility or that have been used recently in performing demolition of other DOE facilities.

### **13.5 PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT**

In addition to the four statutory mandates discussed above, the statutory preference for treatment as a principal element is also addressed in this ROD. Treatment is not a significant element of the selected remedy for the reasons mentioned above. Most of the high volumes of waste have low levels of contamination, which means treatment will not be cost-effective. In addition, the types of waste are varied, which requires many different types of treatment technologies, which will also reduce the cost-effectiveness of the remedy. Treatment may be used for small volumes of waste that have higher levels of contamination or specific types of contamination to meet on-Site or off-Site WAC requirements or transportation requirements.

### 13.6 5-YEAR REVIEW REQUIREMENTS

The NCP §300.430(f)(4)(ii) requires a 5-year review if the remedial action results in hazardous substances, pollutants, or contaminants remaining on site above levels that allow for unlimited use and unrestricted exposure. The RD/RA Statement of Work (Task V) in the DFF&O requires that 5-year reviews be conducted on any remedial action that has been initiated; however, the DFF&O does not require 5-year reviews on individual buildings, facilities, structures, etc., where D&D actions have not been initiated, or for buildings, facilities, structures, etc., that have been totally removed through a D&D action. It is anticipated that 5-year reviews may be required for this remedial action for either of the following conditions:

- As part of the selected remedy some structures may ultimately be allowed to remain at PORTS with Ohio EPA concurrence/approval, as applicable, consistent with and satisfying the protective requirements for a future industrial land use scenario. By definition, a future industrial land use scenario may not result in a condition of unlimited future use and unrestricted exposure, thereby triggering the need for 5-year reviews under the NCP.
- Portions of the remedial action may take longer than 5 years to complete, once initiated.

## 14. DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the process buildings and complex facilities was released for public comment on October 29, 2014. The Proposed Plan identified Alternative 2, remove structures, treat as necessary, and package waste for final disposition, as the preferred alternative for building remediation. DOE and Ohio EPA have reviewed all written and verbal comments submitted during the public comment period. It was determined that no significant changes to the remedy, as originally identified in the Proposed Plan, were necessary or appropriate.

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### **PART 3. RESPONSIVENESS SUMMARY**

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## 1. INTRODUCTION

This Responsiveness Summary presents the U.S. Department of Energy's (DOE's) responses to comments received from the public review and comment period held November 12, 2014 to March 11, 2015, and at the public meeting held on November 17, 2014 regarding the *Proposed Plan for the Process Buildings and Complex Facilities D&D Evaluation Project at the Portsmouth Gaseous Diffusion Plant* (DOE/PPPO/03-0383&D4) (Process Buildings Proposed Plan). In addition to the verbal comments received in the November 17 public meeting, comments were received both by mail and via email during the comment period.

Public input is an important consideration in the selection of the final remedy. The Proposed Plan provided DOE's best solution based on all the regulatory requirements and the science available to the government, along with initial community input. The criteria that must be balanced when making a remedy selection are: Compliance with Applicable or Relevant and Appropriate Requirements; Long-term Effectiveness and Permanence; Reduction of Toxicity, Mobility, or Volume through Treatment; Short-term Effectiveness; Implementability; and Cost. Upon receipt of all the public comments, DOE evaluated these comments to determine if there was new or differing information, if errors were found, or if there is an alternate perspective that causes the technical evaluation to be modified or change the balance of pros and cons associated with the proposed remedy.

Each of the comments received on the Process Buildings Proposed Plan provided helpful insight. Each of the comments was considered as to its potential implications to the Record of Decision (ROD). Based on this consideration, no changes were identified that fundamentally altered the remedy selected in the ROD with respect to scope, performance, or cost based on the comments received. However, some of the comments were considered when drafting the ROD to identify issues that require clarification or further explanation.

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## 2. INDIVIDUAL COMMENTS AND RESPONSES

This section provides an individual response to all 476 comments received on the Process Buildings Proposed Plan. These written and verbal comments have been included verbatim as they were received with one exception; 454 comments were sent in the form of one of five template letters. For these comments, only a representative of each of the templates has been included in the main text of the responsiveness summary, along with an accounting of the number of times that particular comment was received. A list of names of the commenters for each template has been placed in an attachment to this responsiveness summary.

### 2.1 Comment from Ricky Miles.

My name is Ricky Miles. I'm Special International Rep for Laborers International Union of North America.

I'm in full support of the D&D of the three process buildings at Portsmouth. I support Alternative 2. Without it, the site cannot be reindustrialized. There would be no advantage to the community out of it.

Currently at the Oak Ridge facility – of these three Cold War plants, two of them are down. They are on the ground, grass planted in the area. The third one is being taken down now. Oak Ridge has got great economic advantage out of the reindustrialization of that site. That's what needs to happen in Portsmouth. Thank you.

**Response:** The U.S. Department of Energy thanks you for your attendance at the public meeting and your participation in the public comment process.

### 2.2 Comment from Tom Berry.

Tom Berry, and I live in Scioto County, and I support the proposed plans.

**Response:** The U.S. Department of Energy thanks you for your attendance at the public meeting and your participation in the public comment process.

### 2.3 Comment from Norman Brooks, Jr.

I'm Norman Brooks, Jr. I live in Scioto County. I'm in full and total support of the proposed plan of the Process buildings as well as other complex buildings to do with the D&D evaluation site.

**Response:** The U.S. Department of Energy thanks you for your attendance at the public meeting and your participation in the public comment process.

2.4 Comment from Jim McGraw.

My name is Jim McGraw. I'm from Scioto County, and I am in full support of the proposed plans. Thank you.

**Response:** The U.S. Department of Energy thanks you for your attendance at the public meeting and your participation in the public comment process.

2.5 Comment from Cole Coleman.

I'm Cole Coleman from Scioto County, and I support both plans.

**Response:** The U.S. Department of Energy thanks you for your attendance at the public meeting and your participation in the public comment process.

2.6 Comment from Shawn Caudill.

My name is Shawn Caudill from Scioto County, and I support both plans.

**Response:** The U.S. Department of Energy thanks you for your attendance at the public meeting and your participation in the public comment process.

2.7 The next 27 comments provided the following statement as Template #1, but were submitted by different individuals and the name, county, and address changed. The list of commenters is provided in the attachment to this Responsiveness Summary. These comments stated:

I am (name); I live in (county) at the following address \_\_\_\_\_.

Proposed plan for the process buildings and complex facilities D&D evaluation project.

I am in full support:

Preferred alternative #2 removes structures, treat as necessary and package waste for final disposition.

Proposed plan for the site-wide waste disposition evaluation project.

I am in full support:

Preferred alternative #2 combined on-site and off-site waste disposal, with the majority of waste remaining on the site in a newly constructed on-site disposal cell.

**Response:** The U.S. Department of Energy (DOE) appreciates your participation in the public comment process. DOE believes that the preferred alternatives in both Proposed Plans provide environmentally-sound and cost-effective options for the Process Buildings and Complex Facility Deactivation and Decommissioning Evaluation and Site-wide Waste Disposition Evaluation Projects at the Portsmouth Gaseous Diffusion Plant.



- 2.8 The next 76 comments provided the following statement as Template #2, but were submitted by different individuals and the name, county, and address changed. The list of commenters is provided in the attachment to this Responsiveness Summary. These comments stated:

I am (name) and I live in (county) at the following address \_\_\_\_\_;  
I support the proposed plans, the preferred alternatives, I know the on-site disposal cell will create jobs.

**Response:** The U.S. Department of Energy (DOE) appreciates your participation in the public comment process. DOE believes that the preferred alternatives in both Proposed Plans provide environmentally-sound and cost-effective options for the Process Buildings and Complex Facility Deactivation and Decommissioning Evaluation and Site-wide Waste Disposition Evaluation Projects at the Portsmouth Gaseous Diffusion Plant.

- 2.9 The next 120 comments provided the following statement as Template #3, but were submitted by different individuals. The list of commenters is provided in the attachment to this Responsiveness Summary.

Comment on the proposed plans.

The proposed plan for process buildings and complex facilities D&D evaluation project.

I am in full support of the preferred alternative. Alternative 2. Controlled demolition of the buildings, treatment as needed and preparation for disposal.

The proposed plan for the site-wide waste disposition evaluation project.

I am in full support of the preferred alternative. Alternative 2. Combined on-site and off-site waste disposal, with the majority of waste remaining on the site in a newly constructed on-site disposal cell.

**Response:** The U.S. Department of Energy (DOE) appreciates your participation in the public comment process. DOE believes that the preferred alternatives in both Proposed Plans provide environmentally-sound and cost-effective options for the Process Buildings and Complex Facility Deactivation and Decommissioning Evaluation and Site-wide Waste Disposition Evaluation Projects at the Portsmouth Gaseous Diffusion Plant.

- 2.10 The next eight comments provided the following statement as Template #4, but were submitted by different individuals and the name, county, and address changed. The list of commenters is provided in the attachment to this Responsiveness Summary. These comments stated:

My name is (name) and I live in (county) at the following address \_\_\_\_\_.  
I support the proposed plans.

**Response:** The U.S. Department of Energy (DOE) appreciates your participation in the public comment process. DOE believes that the preferred alternatives in both Proposed Plans provide environmentally-sound and cost-effective options for the Process Buildings and Complex Facility Deactivation and Decommissioning Evaluation and Site-wide Waste Disposition Evaluation Projects at the Portsmouth Gaseous Diffusion Plant.

- 2.11 The next 222 comments provided the following statement as Template #5, but were submitted by different individuals. The list of commenters is provided in the attachment to this Responsiveness Summary.

Dear Ms. Wiehle:

I wish to submit comment of the DOE proposed plans for the D&D of existing Process and other complex buildings of the former Gaseous Diffusion Uranium Enrichment Plant and also for the the [sic] Site Wide disposal of the waste contained within these facilities as part of the D&D project.

I am in FULL SUPPORT of the preferred alternative, Alternative 2, the controlled demolition of the buildings and the waste being prepared for disposal.

I am also in FULL SUPPORT of the waste disposition preferred alternative, Alternative 2, the combination of both on and off site waste disposal, with the majority of the waste remaining on the DOE site in a newly constructed state of the art waste disposal cell.

Thank you and please enter this as part of the public comment record.

**Response:** The U.S. Department of Energy (DOE) appreciates your participation in the public comment process. DOE believes that the preferred alternatives in both Proposed Plans provide environmentally-sound and cost-effective options for the Process Buildings and Complex Facility Deactivation and Decommissioning Evaluation and Site-wide Waste Disposition Evaluation Projects at the Portsmouth Gaseous Diffusion Plant.

- 2.12 Comment from Unknown (signature illegible).

Was employed there 41+ years

Will cost at least 5 times the cost of construction to destroy it.

Agree with on site storage of low contaminated waste.

If nuclear power ever makes a come back, which it probably will have to since coal power is being outlawed this *itself* would be an ideal location location [sic] for a nuke plant.

[Signature Illegible]

**Response:** The U.S. Department of Energy appreciates your participation in the public comment process.

- 2.13 Comment from Jason Kester.

Ms. Wiehle,

On behalf of the Southern Ohio Port Authority (SOPA), the lead economic development agency for Scioto County, Ohio, we offer the following comments in regards to both the Process Buildings and Complex Facilities D&D Evaluation Project as well as Site-Wide Waste Disposition Evaluation Project.

## Process Buildings and Complex Facilities D&D Evaluation Project

The Southern Ohio Port Authority supports Alternative 2 – which includes the removal of stored waste, materials, hazards, process gas equipment, and process piping. We also support the demolition of buildings or structures and the characterization and demolition of underground man-made features.

## Site-Wide Waste Disposition Evaluation Project

SOPA prefers Alternative 2 contingent upon a number of factors. We are aware that RCRA, CERCLA, and other federal and state regulatory schemes may not require the characterization, decontamination, deconstruction, demolition, and removal of all subsurface contaminants [sic], but we feel this is vital to the longevity of the site. DOE must take all reasonable efforts to “clean-up” the man-made “floating plumes” and “capped dumps” which reside inside perimeter road. The site will have little to no economic development value with both an on-site disposal cell and subsurface contaminants [sic]. We are also concerned that DOE will be the sole arbiter of determining which sites to clean-up. The Site Specific Advisory Board (SSAB), the Southern Ohio Diversification Initiative (SODI), and the local and state elected officials must be consulted. DOE must make every reasonable effort to clean-up the area inside perimeter road so that the community will have a viable site at the conclusion of the decontamination and decommissioning project.

Please do not hesitate to contact me for follow-up or additional questions.

Very Respectfully,

[signed]

Jason Kester  
Executive Director  
Southern Ohio Port Authority (SOPA)  
(c) (740) 935-2738  
jkester@sohpa.org

**Response:** The U.S. Department of Energy (DOE) thanks you for your participation in the public comment process and appreciates your support of Alternative 2 for the Process Buildings decision. DOE has had multiple meetings and discussions with local stakeholders regarding its commitment to using the existing landfills and plume soils inside Perimeter Road as the source of fill for the On-Site Disposal Cell. It is important to understand that the Ohio Environmental Protection Agency (Ohio EPA) has selected final remedies on all of the landfills and on most of the plumes that are protective of human health and the environment. Ohio EPA will also select a final remedy on any remaining plumes, regardless if the plume soils are used as fill, to ensure protectiveness. Due to the regulatory situation, DOE cannot make a commitment in the Record of Decision (ROD) to excavate the plumes, but it remains DOE’s intent to use contaminated plume soils as fill. DOE also needs to maintain the flexibility to use alternate sources of fill should conditions arise during implementation that diminish the efficiency, safety, or protection of the environment along with no longer being in the best interest of the project. The level of commitment presented in the Proposed Plan is consistent with that used in the ROD.

DOE is also committed to maintaining a strong community relations program during the remediation of the site, and engagement with the Site Specific Advisory Board, the Southern Ohio Diversification Initiative, and local and state elected officials are a part of this process. DOE will continue to share information and listen to feedback on the planning, progress, and challenges encountered during the remediation effort. Ultimately DOE must maintain the final decision-making authority, in conjunction with appropriate concurrence or approvals by Ohio EPA, when developing the plans to obtain contaminated fill from the Portsmouth Gaseous Diffusion Plant landfills and plumes. The sequence of landfill and plume excavation must support the need to carefully coordinate demolition and on-Site disposal operations and ensure work is performed in a safe, environmentally compliant, and a cost-effective manner.

2.14 Comment from Peter Schubert, Ph.D., P.E.

My interest in PORTS stems from collaboration with Ohio University's Voinovich Center. I am part of a team developing novel methods of subsurface remediation which might be used to clean up plumes at PORTS. I am not a local resident, and have no personal stake in this decision.

My first comment regards the Commitment of Resources. For projects with a 12 or 18 year duration the description of these "irreversible and irretrievable" resources is inadequate. From where would these funds be drawn? Where would they be secured? Who would be responsible financially? What is the yearly requirement? How exactly can you make future payments "irreversible"?

- The concern is that future decision-makers could halt the process part-way through, leaving the site in worse shape than if nothing had been done.
- What other alternatives have been considered? It is stated that Alternative 1 is only listed for regulatory purposes. It is my opinion that the public should be offered further alternatives. As examples:
  - Crush the buildings and bury them under rip rap covered, coated, and infused with cement to make a stone mountain to dissuade entry.
  - Torch the buildings to destroy VOCs, PAHs, oils and greases. Excavate deep pits adjacent to the foundation, line with landfill-type liners plus Bentonite clay, then bulldoze the rubble into the pit; cover with gravel and concrete.
  - Dig a subsurface mine sufficiently below the water table to be geologically stable, dump all materials inside, seal with rip rap, gravel, concrete then dirt. Maybe erect a stable monument dissuading future excavations.

I did not read any mention of the proposed waste disposal sites. Transport of radioactive waste across state boundaries is not addressed in this plan. Aren't there considerations for transport rights-of-way when moving such an enormous quantity of materials such that there is a non-negligible risk of an accident? Has the volume of waste been compared to the available disposal sites to ensure this is a viable option?

**Response:** The U.S. Department of Energy's (DOE's) evaluation of Irreversible and Irretrievable Commitment of Resources appears to be different than the term noted in the comment.

This evaluation criterion in the Remedial Investigation/Feasibility Study (RI/FS) report assesses the commitment of materials and land in the implementation of a federal action. For instance, the use of fuel is irreversible. Once that fuel is used, it cannot be used again. Funding is not considered a resource in this criterion. More information can be found in the RI/FS.

However, to address the funding questions, funding to implement the remedy will be secured on an annual basis from the Federal government through the annual federal budgeting and appropriation process, which allocates a budget to DOE. DOE then decides how to allocate those funds to each of its sites and missions. Under Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), the federal government remains liable for all response costs associated with the site (including the costs associated with long-term care), regardless of when incurred. The funds required by year are not set. If more funds are received, the schedule for demolishing the buildings is reduced. If fewer funds are received, the schedule lengthens.

As stated on page 3 of the Proposed Plan, “Wastes would be disposed as specified in the Site-wide Waste Disposition Evaluation Project Record of Decision (ROD).” Waste disposal is not part of the decision proposed in the Process Buildings and Complex Facilities Decontamination and Decommissioning (D&D) Evaluation Project Proposed Plan. Some of the information being requested in this comment (the location of waste disposal sites, transportation of radioactive waste across state boundaries, risk of accidents, and comparison of volumes generated to capacity at disposal sites) can be found in the Site-wide Waste Disposition Evaluation Project documents, including the Waste Disposition RI/FS (Section 9.2.2.1.5) and Proposed Plan. The waste disposition decision has been finalized in the Site-wide Waste Disposition Evaluation Project ROD.

*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* and CERCLA require that any alternative considered must be protective of human health and the environment, and must also comply with regulations (called applicable or relevant and appropriate requirements). These are considered threshold criteria that must be met. In the process of developing alternatives, various technologies are screened with these requirements in mind. Section 6 of the Process Buildings RI/FS contains information on the variety of technologies considered before the final alternatives were developed for a full evaluation. Section 7 of the Waste Disposition RI/FS did a similar evaluation of disposal technologies. The other options suggested in the comment were not evaluated as full alternatives because they did not meet one or both of these threshold criteria, as discussed below.

1. Crushing the buildings in place and burying – A similar option was evaluated in the Waste Disposition RI/FS. It was called entombment in that document. The entombment option consists of demolishing the buildings and consolidating the waste at one place on an existing building slab, and then building a permanent cover over the waste. Entombment was not selected to be developed into an alternative because it would not be feasible nor protective. It would be extremely difficult to stack the waste on the smaller footprints of the process building slabs, but more importantly, the slabs would not provide a protective liner for the waste. Underlying groundwater would become

contaminated, which would cause an impact to human health or the environment in the future, an unacceptable condition.

2. Torching the building – This option was not considered at all in the RI/FS. The uncontrolled release of radioactive contaminants into the air during the fire would result in considerable dispersion of contamination and the contamination of adjacent residential properties. This would be against environmental regulations and would not be considered protective.
3. The construction of a subsurface mine in a geologically-stable area – Constructing a mine in a stable formation beneath the plant was also not considered. The expense would be extreme as the excavation depths would need to be around 70 ft beneath the plant, just to reach the geologically-stable Bedford shale below the regional aquifer in the Berea sandstone. Then, additional excavation would be required to construct a mine in the formation with sufficient vertical distance below the saturated Berea sandstone. This mine would need to stay dry and provide a capacity similar to a football stadium. It would be extremely difficult, expensive, and time consuming to construct. Operation of such a mine for placement of the D&D and other remediation waste would also be very difficult and slow considering worker protection requirements. Also, the State of Ohio regulations require that any solid waste be placed above the water table (*Ohio Administrative Code [OAC] 3745-27-07[H][2][e]*); and federal and state regulations require the use of underlying liners and leachate collection and removal from any hazardous waste landfill (*40 Code of Federal Regulations 264.301[c]* and *OAC 3745-57-03[C]*, respectively). A deep mine under the main plant area of the Portsmouth Gaseous Diffusion Plant would not be able to meet these conditions.

2.15 Comment from Diana Cahall.

Please include my comments on the above-referenced proceeding as part of the official record.

Alternative 2 is the most protective of human health and the environment, and, therefore, is the most reasonable alternative. Does DOE plan to evaluate the feasibility of recycling/reusing some of the materials after dismantling these process facilities? What volume of metal is estimated by DOE to have surface contamination only, and could be considered for recycling/reuse? Does DOE plan to dispose recovered uranium deposits on the process equipment or to stockpile it for possible future use?

I understand that depleted uranium is not included in this decision making process, when does DOE plan to involve the public in decisions regarding the 18,000 or so canisters presently on site? Please add my name to any such public process regarding the depleted uranium issue, as well as disposition of the canisters after conversion of the DU that they contain(ed).

Thank you for providing this opportunity to offer comment. Please continue to inform me of developments on the cleanup process at the PORTS D&D Project.

Respectively submitted, Diana Cahall  
7019 Ashridge Arnheim Road  
Sardinia, Ohio 45171  
(937) 446-4583

**Response:** The U.S. Department of Energy (DOE) thanks you for your input regarding the potential for future recycling and reuse at the Portsmouth Gaseous Diffusion Plant (PORTS). DOE remains committed to recycling equipment and material from the buildings and structures at PORTS. DOE's decision concerning recycling and/or reuse is part of the Waste Disposition decision. The Waste Disposition Record of Decision (ROD) adopts the following text, which is consistent with statements found in the Remedial Investigation/Feasibility Study (RI/FS): "DOE is committed to the recycling and/or reuse of materials generated through [decontamination and decommissioning] D&D of the [gaseous diffusion plant] GDP facilities, in compliance with [applicable or relevant and appropriate requirements] ARARs. Prior to implementing recycling, DOE will evaluate and document the benefits (including disposal volume savings) against the additional costs of completing the action, implementation issues, and efforts with implementing associated policy issues. DOE will evaluate the individual materials and regulatory waste types throughout implementation of D&D and recycle and/or reuse materials at DOE discretion." DOE must maintain the ability to evaluate the benefits of recycling such as a smaller disposal cell against impacts including cost of preparing the material in order to be good stewards of the taxpayer's money.

DOE is committed to recycling and/or reuse of materials when appropriate. DOE has estimated that 110,000 cy of material will meet the criteria for recycling during the implementation of Process Buildings and Waste Disposition remedies. DOE continues to evaluate the potential for the recovery/reuse of the 6,400 tons of contaminated nickel material within the converters of the X-333 and X-330 buildings. DOE's plan is to complete this evaluation before the start of deactivation for Building X-333.

DOE intends to remove any uranium deposits as necessary to ensure that U.S. Department of Transportation and waste acceptance criteria requirements are met. The removed deposits would be appropriately packaged and disposed of off the Site. There are no plans to remove uranium deposits for reuse.

You are correct that DOE is not assessing the future of the depleted uranium in this decision. As of yet, the date for that decision is uncertain. Neither the depleted uranium hexafluoride nor the converted oxide resulting from the depleted uranium hexafluoride conversion operations discussed in the comment are within the scope of the *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*. They were not evaluated for disposal (either on the Site or off the Site) in the Waste Disposition RI/FS and are not authorized for disposal by the Waste Disposition ROD. Your name will be included in any future correspondence concerning that future decision.

## 2.16 Comments from Geoffrey Sea.

Geoffrey Sea with Ohio Environmental Council and Don't Dump on Piketon.

I am going to – since this is a separate process, I am going to require that my process comments, which were lengthy and were submitted for the earlier section, which all apply equally to this one, because they are about the process of dividing these two decisions – I'm going to require that the DOE do go and refer to those comments rather than repeat all of them.

But I will formally, because this is a separate process, give you another copy of the letter from the counsel of the Ohio Environmental Council, stating their strong objections to this whole process.

This exemplifies the problem of dividing these two decisions, and then combining them in this weird way, which we contend is actually illegal. By combining them, you're making it impossible for there to be a different decision on either stage.

Is it possible to conceive that DOE would decide to not tear down the process buildings, but to build an on-site waste disposal cell to handle the waste from the process buildings? No. Of course, that's not possible. But, you haven't combined them into one. You have kept them as two separate decisions. You have essentially made it – you have stacked the deck. You have made this – you have made it impossible for the decision to be anything other than you preprogrammed it to be.

Now, I'm going to address some particular problems with the process building decision itself. We support tearing down the process buildings. I think everybody understands that. And there could be a lot of common ground if you had actually worked with the stakeholders that you need to work with, not just the ones you selected because they agree with your position.

We could get together and we could make some actual rational, community-enhancing decisions about, okay, we need to tear down the process buildings. But there are some facilities, one in particular, that does not need to be teared [sic] down. Everybody knows what it is. It's not contaminated. It's a very architecturally-important facility. It's the facility that was used as the control room for the general complex, and that's why it's not contaminated inside.

That building would serve a whole variety of great alternative uses. It's structurally very strong, unlike the process buildings. It would be a crime to tear that building down. But we think that you have rigged the process to tear that building down, for reasons that aren't fully disclosed in your program. And you have rigged your process to make sure that it's impossible for bonafide [sic] community groups to come forward with rational alternatives for what should be done on this plant site.

Okay. We have particular problems with the arrangement that you have made to have SODI be the key intermediary. SODI, although it claims to be a non-profit organization, is actually a for-profit organization. They were members of two for-profit consortiums; one, to store spent nuclear fuel at the site, and the second to build a nuclear reactor at the site. They have never formally terminated either of those consortiums as far as we know.

We contend it would be illegal for you to put into your decision a concession to a for-profit organization that has pre-decided what it wants to put on the site, and given them the role of being the decider, in this whole process, of what buildings stand and what buildings go. Thank you.



[Text of the letter from the OEC legal department follows:]

ATTN: Ms. Kristi Wiehle

RE: November 17, 2014 Public Hearing on Portsmouth Process Buildings and Complex Facilities D&D Project; Portsmouth Site-Wide Waste Disposition Evaluation Project

The Ohio Environmental Council (OEC) strongly objects to the public participation process announced by the US Department of Energy for the Portsmouth Gaseous Diffusion Plant. The process as announced by DOE provides grossly insufficient opportunity for meaningful public review and public comment.

Tonight's hearing will occur during adverse weather conditions in which several school closings have been announced in the region. In addition, DOE is proposing to condense the comment and hearing process for two distinct projects involving the Portsmouth Gaseous Diffusion Plant into a single hearing and comment period. The substantive implications of DOE's proposals are of the utmost interest to OEC members in the region and throughout the state.

Given the foregoing, and on behalf of our thousands of members throughout the state, OEC requests that DOE extend the public comment period by an additional 60 days and afford an additional public hearing to be held close-in-time to the close of formal comment.

Sincerely,

[unsigned]

Nathan G. Johnson  
Attorney  
Ohio Environmental Council  
1207 Grandview Avenue, Suite 201  
Columbus, Ohio  
(614) 487-7506 OEC  
[NJohnson@theOEC.org](mailto:NJohnson@theOEC.org)

[Text from comments made on the Waste Disposition Proposed Plan follows:]

My name is Geoffrey Sea. I'm here representing the Ohio Environmental Council, which is the largest environmental group in Ohio, with over 3,000 members, as well as the new incarnation of the watchdog local group over the plant site, which we are naming tonight, in launching, called Don't Dump on Piketon.

Don't Dump on Piketon is the heir to the petition drive in 2006/2007 that collected over 5,000 signatures from the area residents opposing use from this site for radioactive waste disposal or storage. And the petition drive that collected over 100 signatures, mainly from fence-line neighbors, in specific opposition to an on-site waste disposal cell just in the past few years.

Tonight I'm going to focus on our process comments, with substantive comments to follow in writing. We – I'm speaking for OEC and Don't Dump on Piketon. We strongly protest the

process which we believe violates the CERCLA requirements for community input into these decisions that have been premade.

Specifically, we object to this meeting being the sole public meeting. It was, No. 1, intentionally planned – the whole process was intentionally planned over the major holidays.

This meeting was held before the public has had a chance to review the documentation.

Insufficient notice was given of this meeting.

Four, the atrocious weather conditions. The news has been broadcasting tonight as the Extreme Polar Vortex. Catastrophe was going to strike the area, and you folks should have cancelled or postponed this meeting. The fact that you didn't do that is just one example of how this entire process has been rigged to ramrod through this on-site waste cell.

And, finally, that you are illegally consolidating two decisions that were promised to be made separately, in sequence, and logically need to be made separately, in sequence, to make any sense and for the public to have meaningful input. You are combining them to one decision, which removes the ability to separately decide these important separate stages.

To remedy these problems, we want, No. 1, an additional 60-day comment period. There are two major important decisions here to be made. Each decision requires 60 days of consideration and comment under CERCLA. So we want 120 days, total.

Okay. We want clear separation of the building – of the process building and waste disposition decisions. We want meetings with DOE and Fluor with excluded stakeholder groups, including fence-line neighbors, public interest groups and Native American tribes. We want more public meetings near the end of the public comment period, and we want DOE funding for community groups through tag grants, to review and provide input on these – this major decision.

Comment from Geoffrey Sea and M. Jane Murray.

## TEARDOWN

### Demolition of the Portsmouth Area Gaseous Diffusion Plant

Comments submitted UNDER PROTEST\* by Geoffrey Sea and M. Jane Murray  
Of Neighbors for an Ohio Valley Alternative

In response to the Department of Energy's Proposed Plan for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project

Geoffrey Sea is a writer and historian with an A.B. degree in History and Science from Harvard University; he owns the Barnes Home historic property adjacent to the DOE reservation, formerly worked for the Oil, Chemical and Atomic Workers International Union at Piketon, and has written extensively about the atomic reservation at Piketon.

M. Jane Murray holds a B.A. and M.A. in sociology, served as Mayor of Portsmouth, Ohio, in 2010, served as Deputy Director of Research for the Kentucky General Assembly, and has served as a cultural resources consultant.

Both Geoffrey Sea and M. Jane Murray are associated with Neighbors for an Ohio Valley Alternative and have been admitted as consulting parties to the Department of Energy under the National Historic Preservation Act

\*We PROTEST the decision process and the public comment process associated with it as illegal and unethical. It is the result of a corrupt arrangement of individuals, companies, and government officials that has the aim of intentionally contaminating the Piketon site with a permanent radioactive waste dump, in order to make that site unavailable to civilian non-nuclear use.

We contend that the Department of Energy is not capable legally of making the two conjoined decisions that it proposes to make; that is the decision 1) to demolish all existing facilities on the gaseous diffusion plant (GDP) site and replace them with a flat, empty, "industrial" lot, and 2) to permanently dispose of most of the debris of that demolition in an on-site disposal cell (OSDC) on a portion of the DOE reservation that is currently woodlands.

We also contend that DOE has intentionally structured and manipulated the decision-making process for these two proposed actions so as to exclude meaningful public notification and comment and confine meaningful input to parties in collusion with the DOE Portsmouth-Paducah Projects Office in Lexington and its contractors. The actions were conflated together by surprise, formerly discussed alternatives were eliminated without explanation, community groups were denied information and meetings with DOE, no community groups were supported to monitor or provide technical input for the decisions, and the process was intentionally complexified so as to make it unintelligible to members of the community in southern Ohio. Consulting parties for National Historic Preservation Act compliance were not notified of this decision-making process, no meetings of consulting parties were held, fence-line neighbors of the DOE reservation were not granted a meeting despite former assurances that such would be done, and whistleblowers were ignored.

The authors of these comments, Geoffrey Sea and M. Jane Murray, have been requesting a meeting with DOE site manager Vince Adams for four years continuously to express grave concerns, and we have been denied such a meeting, sometimes with subterfuge. (Mr. Adams has claimed that he did not receive a request for such a meeting from Fluor-B&W, but the representative for FB&W charged as our contact has relayed the request to Mr. Adams in front of our faces, and Mr. Adams refused to agree to a meeting even then.)

Two petitions opposing radioactive waste storage and disposal at the site have been circulated in the community – one in 2006-7 and one in 2010-11. The first collected over 5000 area signatures and was presented to DOE twice eliciting no response or acknowledgement either time from DOE. The second petition included over 100 signatures mostly of fence-line neighbors. The only response to the second petition from Fluor-B&W personnel was to claim that because it opposed a "waste dump" at Piketon, it did not apply to any DOE action since no "waste dump" was proposed, even though DOE now does propose an on-site waste dump and the petition was drafted with intended reference to the on-site waste cell now proposed. We submit that all of these more than 5100 names be counted as community residents opposed to the proposed on-site waste cell. Many more community residents stand in opposition, but DOE has intentionally

blockaded their voices. Local store-owners who circulated both petitions at their establishments were harassed and intimidated and told to remove the petitions, we believe by contractor employees from the site.

The sole public meeting to receive public comments was held only one week after the opening of the public comment period, before the public even had time to receive news that there were decisions pending. That meeting was held on the night of the worst weather of 2014, a night when the polar vortex was forecast to strike. All schools in the four counties most effected – Pike, Scioto, Ross, and Jackson – were closed both the day of and the day after the meeting. Though the terrible weather was forecast days in advance, the DOE meeting was not cancelled or postponed, almost no community people attended, and the room was intentionally packed with DOE and contractor personnel in order to make it appear as if there was a crowd. DOE personnel in charge of the meeting were too embarrassed to even explain why the meeting had not been postponed.

The deadline for comments, as far as we know, has remained March 11, even though the winter storm Thor hit south-central Ohio on March 4, plunging temperatures to below zero, and knocking out power to large areas of Pike, Scioto, Jackson, and Adams counties, including the immediate residential area around the plant site. Some homes in the area remained without power as of March 11.

We formally requested a second public meeting for comments on the proposed actions and that has not been granted.

We do propose an alternative process for making legal decisions about site disposition, and alternative actions to those proposed by DOE.

Here, we outline:

- I. Why the Department of Energy is legally barred from making this decision at this time;
- II. Why the proposed action would be the wrong action in terms of federal and state laws, cost, sustainability, National Historic Preservation Act compliance, and community support;
- III. What DOE needs to do to comply with federal law and gain community support;
- IV. How an alternative to the proposed action can better meet the aims of the cleanup.

This is followed by substantive comments on the Process Building Demolition Decision.

**I. Why the Department of Energy is legally barred from making this decision at this time:**

- A. Conflation of the two different action decisions predetermines the outcome of both decisions, eliminates consideration of alternatives, and removes opportunities for effective community input.

For years following its assumption of the Piketon cleanup contract, Fluor-B&W, along with DOE, informed stakeholders and the public to expect two decisions in sequence: First, whether or not to demolish the process buildings (the PB decision), and second –

after the first decision had been made – what to do with the waste that would result if demolition was required (the waste disposition or WD decision [sic]. This order of operations made sense logically and legally, because we cannot proceed to make an informed WD decision until we know how much waste will be generated, and we won't know the amount of waste generated until we decide whether the process buildings will be torn down.

The PB decision is not as simple as it seems. It is not just a question of the three main process buildings but also of all the subsidiary structures and infrastructure at the site, including questions such as whether to tear up roads and concrete foundations, and the general condition for leaving the site. Future use of the central portion of the site is also folded into the demolition decision, because there is a big difference between tearing down the buildings to leave a flat empty lot (as is proposed), and removing structures in a way to allow restoration of the sites topography prior to GDP construction in 1952. It is also possible, and desirable, to tear down the process buildings in such a way as to leave some non-contaminated waste “disposed” of in that process, as fill or in architectural mounds. Only after these complex decisions are made could we then proceed to decide how much other waste needs to be disposed, and where.

In the early years of GDP cleanup, we actively proposed filling one or two of the process buildings with soil, and then mounding it over, in order to avoid a separate OSDC. We do not believe that this option was adequately investigated, as to properly consider it would require making the PB decision first, but leaving the WD decision for later.

By surprise, only in 2014, Fluor-B&W and DOE announced that they would conflate the two decisions and make them simultaneously, though retain separate processes for each decision. We contend that the intention of this conflation was to confuse the public and eliminate the consideration of viable alternatives. Not only has the presentation of these two separate but simultaneous decisions been confusing, but the explanation given undermines the legality of the conflation. It has been said repeatedly at meetings of the SSAB and its subcommittees that the reason for the conflation was that since “there is no alternative” to process building demolition, DOE “might as well” make the waste disposition decision at the same time, in order to speed up the schedule, and since the decision for demolition “predetermines” the need for an on-site waste cell.

This is an admission that the law is being scuttled, since CERCLA and the various statutes it subsumes – NEPA, NHPA, etc. – all REQUIRE the vibrant consideration of alternatives, with community input and community support demonstrated for the chosen options. But the conflation of decisions eliminates the possibility of considering alternatives, as the following exercise shows:

Suppose that the “do nothing” alternative for the process building decision wins over the teardown action, a possibility that the federal laws require be considered seriously. This is not as far-fetched as it seems since funding for the entire project is in question (as elaborated below), and there may not be the money to proceed with the demolition.

But wait, the “do nothing” option can't win, because simultaneously a decision is being made to put the demolition debris into a gigantic and very costly waste cell. Without the demolition, there wouldn't be the waste to put into a waste cell. So making the waste

disposition decision now eliminates any actual decision about demolition. The buildings MUST be demolished the way DOE has rigged the process. DOE's pretense that it has yet to make a decision about demolition is pure play-acting: that decision has already been made; it had to be made or the waste cell would not have been proposed.

Conversely, Fluor-B&W and DOE have repeatedly said that they want the waste cell ready to begin accepting waste from the demolition even before the demolition occurs, just to handle process equipment coming out of the buildings and prevent a build-up of materials on the site. Presumably it would be unacceptable to empty the buildings and then demolish them before the emptied equipment has all been removed from the site to some waste repository.

In other words, the waste disposition decision has ALSO already been made, as is even more clear from Fluor-B&W's extensive work at the selected waste cell site, allegedly before any decision has been made. The "do nothing" option for this decision is also a fiction, because the parties have already acknowledged that they CAN'T let waste accumulate at the site with no place to put it, since the process buildings are already being emptied under the existing contract for work.

Thus, both of the supposed "decisions" are predetermined legal fictions. But that violates the controlling statutes which REQUIRE that alternatives be seriously considered – and not just the "no action" alternative.

- B. DOE has illegally removed viable and better action alternatives from its decision documents, even though those alternatives were proposed. In fact, DOE conflated the two decisions for the express purpose of eliminating consideration of alternatives. Specifically, DOE has failed to considered the lower costs
- C. DOE has not met the community involvement requirements of CERCLA and has not provided TAG grants to community organizations as it has at every other major cleanup site except Paducah.
- D. DOE has illegally eliminated the consultation requirements of the National Historic Preservation Act and has failed to even notify NHPA consulting parties that its consultations were terminated.
- E. The proposed site for an on-site waste cell has a prehistoric Native American archaeological site in its midst, worthy of listing on the National Register of Historic Places. DOE has not devised any acceptable way to mitigate the potential adverse impacts of an OSDC on this site.
- F. DOE has illegally and fraudulently supported USEC Inc., the now bankrupt uranium enrichment company (which has emerged out of bankruptcy under the name Centrus Energy) only so that the fictional "American Centrifuge Project" could continue on paper. The fraudulent idea that the ACP project will be operating on the site – contraindicated by every professional analysis including two by the DOE loan guarantee office – has been used to justify the siting of an on-site waste disposal cell, on the argument that the site will be "nuclear" anyway. In other words, if ACP were acknowledged to be a bust as it ought to be, then DOE could not justify a decision to

contaminate an otherwise non-nuclear site with a new thousand-year on-site waste disposal cell.

- G. M. Jane Murray learned of the fraudulent nature of ACP personally in January of 2010, when she visited the site as mayor of Portsmouth. Mayor Murray insisted on visiting the ACP site, which was then supposed to be in full commercial operation, according to “binding” agreements between USEC and DOE. But in 2010 the buildings remained almost entirely empty. Mayor Murray asked how many centrifuges were then in operation at the site. Her tour guides were reluctant answer [sic] but were finally forced to admit that only 36 centrifuges were then in operation, nine years after start of the project. At that moment, Iran was spinning over 20,000 centrifuges, though Iran started its centrifuge program after USEC. Despite USEC’s obvious collapse which ended in its bankruptcy, signs at the site still announce the American Centrifuge Plant as a going concern, fooling area residents into thinking that the site is still a viable nuclear operation. This bears on the waste disposal decision a number of ways, including the idea intentionally spread by site contractors that since the site is hopelessly contaminated anyway, the additional radwaste cell will “do no harm.”
- H. In 2009, Geoffrey Sea met with Dennis Carr of Fluor-B&W at Sea’s request. Carr is now the FB&W project manager but was then in charge of planning waste disposition. In that meeting, Carr said that “confidentially” he believed that USEC’s ACP would never operate and that he was planning an on-site waste cell large enough to accommodate the refuse not only from demolition of the GDP but also from demolition of USEC’s ACP buildings, which would need to be torn down as soon as ACP was acknowledged to be kaput. By 2011, however, FB&W had changed its tune publicly after it was realized that community opposition to a waste cell was intense. In that year Mr. Chu [sic] of FB&W made a presentation to the SSAB at which he stated on the record that USEC’s ACP was a factor in the siting of the OSDC, namely that since the ACP was located at the southwest corner of the DOE reservation, siting of a waste cell at the northeast corner of the reservation would minimally impact USEC’s personnel. In other words, FB&W set about to contaminate opposite ends of the reservation in supposed consideration of a project they knew to be nonviable, and which they already planned to demolish. The total evaporation of the ACP project necessitates a total rethinking of the waste cell, since the entire site can now be preserved for non-nuclear use and since there is no logic in contaminating a part of the site that is far away from ACP.
- I. DOE and Fluor-B&W have long histories of undisclosed corruption and security breaches at the Piketon site that make both parties untrustworthy to site and operate an OSDC. Piketon is the site of some of the worst health and safety violations in DOE complex history, including the massive burial of parts of the INCO Nickel Plant from Huntington, West Virginia, on the Piketon site. (See the 1980 film *For My Working Life* about the health and safety problems at Piketon, for which Geoffrey Sea served as a consultant.) Piketon was indeed the site of the grossest security violation in DOE complex history, the theft by a foreign country of at least one train-car-load of Highly Enriched Uranium en route from Piketon to Apollo, Pennsylvania, in the 1960s. (It is known as the Apollo Affair but the uranium never left Pike County, Ohio, before it was stolen.) In the 1980s at least two employees were caught stealing radioactive metals from the plant and selling the metal locally, but the cases were never made public. In the 1990s, DOE at Piketon was caught in a massive scheme to alter and destroy worker

dosimetry records. Also in the 1990s, Bechtel-Jacobs Corporation was caught intentionally packaging clean items as radwaste in order to collect higher fees for waste disposal. In the year 2000, about five acres of federal land at Piketon was literally stolen from the federal government and transferred illegally to the trustees of Scioto Township, as a payoff by a corrupt DOE official from Oak Ridge. (Deeds of transfer and names available.) This land was never returned to the federal government, even though plant DOE officials know about the illegal transfer. Certainly, the same officials responsible for stealing federal land cannot be trusted to steward the construction and operation of an on-site radioactive waste dump. In 2007, a radium calibration source was stolen from a vault at Piketon and no report on the theft was ever issued. In 2008, when the Piketon cleanup contract was up for bids, Geoffrey Sea received a phone call from one of the bidding companies, claiming that PPPO manager William Murphie had “fixed” the process for Fluor-B&W to win it – before the award to Fluor-B&W was announced. In 2013, Fluor-B&W and USEC were caught illegally shipping contaminated converters from Piketon to Paducah for storage in that GDP before it closed, in order to reduce the radwaste burden at Piketon. Since the scheme was revealed in part by dosimetry personnel at Piketon, Fluor fired its entire radiation dosimetry staff, apparently in order to remove the unknown whistleblower. Fluor-B&W then concocted a story for the press about how its radiation records were “altered” with no explanation for how or why that would have been done. This incident eliminates any basis for the community placing trust in either Fluor B&W or DOE. Simply put, no decision on the proposals prepared jointly by Fluor-B&W and PPPO can be legally acted upon by DOE until the full history of corruption and illegality at Piketon is investigated and guilty parties prosecuted.

- J. Fluor-B&W became the favorite of PPPO precisely because the company had successfully planned and built an enormous unsightly on-site waste storage facility at Fernald. In other words, the present “decision” was structured into the award of the initial contract to Fluor, and that contract was written in such a way as to give extra fees to FB&W for successful sighting of an OSDC at Piketon. In other words, there is no present “decision” being made – that decision was already made and was fraught [sic] with corruption involving PPPO and FB&W personnel. If the government selects a contractor to accomplish a specific action and contracts to pay that contractor to accomplish that action, it cannot later claim that it is making an honest policy decision in accordance with the law. In reality, the entire decision-making process is unlawful.
- II. Why the proposed action would be the wrong action in terms of federal and state laws, cost, sustainability, National Historic Preservation Act compliance, and community support;
  - III. What DOE needs to do to comply with federal law and gain community support;
    - A. Separate the proposed actions to make the Process Building demolition decision now, and postpone the waste disposition decision until after the Record of Decision on process building demolition. This will allow required consideration of alternatives in both phases of the decision-making.
    - B. Initiate a Disclosure Project for acknowledging to the community the long history of deception, corruption, and injury at Piketon, in preparation for genuine community involvement in decision-making.



- C. Publicly terminate the ACP project and make a first decision about the status of the ACP buildings.
  - D. Investigation and prosecution of the corruption scandals at Piketon.
  - E. Replacement of Fluor-B&W with a contractor meriting trust that does not have a financial incentive for on-site waste disposal.
  - F. Creation of a non-profit corporation without the involvement of site contractors that can make impartial community-based decisions about future site use and that can monitor the actions of DOE and site contractors. (This would replace SODI which is tainted by contractor influence.)
- IV. How an alternative to the proposed action can better meet the aims of the cleanup.

We propose three specific alternatives to an on-site waste cell:

- A. Ship all the waste off-site as in DOE's alternative B, but use the West Texas Radioactive Waste Facility instead of the facilities in Nevada and Utah, at much lower disposal and transportation cost than what was calculated in the decision document.
- B. Locate a site within the Ohio Valley, possibly in a limestone quarry, where the lower-level radwaste from both Piketon and Paducah can be disposed at great cost savings.
- C. Separate the waste stream that is proposed for the on-site disposal cell into two streams; material that requires radioactive waste disposal off-site either in Texas or a site found within the Ohio Valley, and a larger stream of "clean" material that can be used on-site for architectural aesthetic construction such as topographic restoration.

#### **Substantive Comments on the Process Building Demolition Decision:**

In a document dated October 7, 2014, the US Department of Energy (DOE) proposes to demolish the three main process buildings and ALL of the support facility structures within the perimeter road. Though no future use has been specified for the site as a whole, and reindustrialization will be severely inhibited by the continued presence of nuclear facilities including a possible on-site radioactive waste disposal facility, the proposed plan calls for creating a gigantic flat, vacant space, barring future offers of tenancy. The process for deciding on how decisions about future use will be made is ambiguous to the point of nothingness.

We contend that this is a formula for corruption and non-development. With no process in place for making futures use decisions, the door will be open to private deal-making of exactly the kind that has resulted in past planning disaster at the site including:

- 1) The hoax proposal for the building of a second gaseous diffusion plant in 1976 that served only as a basis for false campaign promises by politicians;
- 2) The hoax proposal for a "Miracle City" development north of the plant site that resulted in nothing real but a road sign;

- 3) The hoax proposal for a “Waste Heat Utilization Program” at a gaseous diffusion plant that was about to close;
- 4) The hoax proposal for an “American Centrifuge Plant” that continues;
- 5) The hoax proposal for a spent nuclear fuel storage facility that turned to vaporware in 2006-8.
- 6) The hoax proposal for a nuclear reactor in 2009 that resulted in nothing.

Each of these frauds was pursued by secret agreements between local, state, and federal officials with no transparent public process to ensure accountability, feasibility, abidance with the law, and democratic decision-making. They also involved tremendous cost to the federal government, some in the form of grants and subsidies that produced nothing of public benefit. The SAME players, including the individuals and corporate board of the Southern Diversification Initiative, which has been funded by DOE, were behind each of these hoax projects, advancing the careers of local and state politicians but leaving less than nothing for the community and workers of southern Ohio.

Leaving nothing but a huge flat empty “industrial” space with no actual tenants, no prospects for real reindustrialization, and no process for deciding how that redevelopment should occur, would be to invite a repetition of the corruption and hucksterism of the past.

We support the decision to demolish the three main process buildings, at least mostly. But we contest any decision to remove all of the adjunct structures and infrastructure. Specifically, the following facilities should be retained:

1. The X-300 building, called the Plant Control Facility, is a dome-shaped circular building in the center of the plant site. It should be retained (i.e. not demolished) for future use as a visitor center and/or museum. Because this was the GDP control facility, it was kept free of contamination, and it is structurally sound because it was built with a thick reinforced dome to withstand bomb blasts. The dome shape of the building conveniently mimics the “mound” theme of the area’s prehistoric heritage, making it an ideal potential museum for prehistoric artifacts of the region. It would be a tragedy to destroy this building. It should be considered protected under the National Historic Preservation Act (NHPA) for architectural significance and association with historic events, along with salvageable control equipment within the building.
2. While most of the structures of the process buildings must be demolished and removed, it would be beneficial to retain some features of the process buildings, which are contenders for the largest buildings on earth in terms of ground coverage. Specifically, research should be done into whether the footprint of one or all of the buildings can be retained, possibly including parts of the concrete pads and foundations, or the skeletal structure of at least one of the three buildings. Preservation of the footprint(s) would have a number of potential purposes: a) preservation of a sense of the record-holding structures in compliance with NHPA, b) possible deposition of clean fill within the footprints of X-330 and X-326, which extend in a one-mile long trail oriented due south-north, in order to create a “mound” that would serve as an aesthetic remembrance of the GDP plant and an actual walkway from which visitors would have a panoramic view of the Scioto Valley, and c) The dimensions of the roughly square X-333 building are approximately the same as the diameter of the

- destroyed “Barnes Great Circle” – an earthwork circle that was located less than a mile away, on the west side of the current Route 23. Since that circle, a very important work for the ancient mound-building culture of the region, cannot be reconstructed in situ (in part because of Route 23), it could be reconstructed within the footprint of X-333, in order to give visitors a simultaneous appreciation of the dimensions of the area’s largest earthworks and the GDP facility.
3. One surface road within the perimeter road, toward the southern part of the reservation, was built precisely along the 39<sup>th</sup> parallel. The 39<sup>th</sup> Parallel is a line of latitude of great historic and potentially prehistoric significance. George Washington used the 39<sup>th</sup> Parallel as his survey line when he explored Ohio for the Ohio Company, and he ordered the District of Columbia to rest on this line because of its astronomical (and mystical) significance. (The plant-site road thus points to Washington DC.) For observational reasons too complex to explain here, the 39<sup>th</sup> Parallel was considered significant to astronomers of many ancient cultures, which may be the reason that two ancient earthworks of the region – Serpent Mound and the Barnes Works – were built in close proximity to this line. Because so many ancient works across different cultures fall along this line of latitude, it has been designated the “Art Line” by a nonprofit project in the United States (<http://www.theartline.org/main.html>) Therefore, this road on the plant-site should be preserved for possible incorporation into a future historic visitor “experience.”
  4. Among the most detrimental effects of GDP construction in 1952, the town of Sargents Station, Ohio, a town that played a historic role in the Underground Railroad, was effectively obliterated. Its main street, Sargents Road, was cut in two by the plant and now survives in two disconnected pieces on opposite sides of the DOE reservation. Likewise, a creek that we have named Forked Tongue Creek (listed on maps as “DOE Tributary”) had its north fork demolished by the plant inside of the perimeter road. This creek was extremely important to the nearby earthworks, because it is the same creek that travels in between the Great Circle and the Great Square of the Barnes Works earthworks. The creek is therefore an integral part of the National Register-listed earthworks. Research needs to be conducted to determine the exact routes of Sargents Road and Forked Tongue Creek prior to 1952, and whether any of the springs that fed Forked Tongue Creek survive. To the extent possible, in consultation with NHPA consulting parties, both the road and the creek should be reconstructed as part of the site’s reconfiguration, thus restoring important aspects of the natural and ancient topography, rather than leaving a flat empty “industrial” expanse.
  5. While the decision as framed pertains only to the area within the plant’s perimeter road, the impact of that decision in terms of compliance with the National Historic Preservation Act extends far beyond this small area. One component of NHPA compliance is determination of an Area of Potential Effect (APE). The APE for removal of the gaseous diffusion plant is not limited to the footprint of the structures but extends to the entire area that was impacted by initial construction of the facility. As has been told by Fluor-B&W [sic] own “history” project, construction of the GDP had massive effects on the entire region, between Portsmouth and Chillicothe, east to Jackson County, and west to Adams and Highland counties. New roads were constructed to support the GDP (including the modern Route 23), ancient sites were disrupted or destroyed (including part of the famous Graded Way in Piketon), sand and gravel pits were dug to supply the GDP with concrete and asphalt, adding to destruction of the Barnes Works earthworks, and so on. Now the federal government is removing the facility that offset these destructive impacts with the “benefits” of employment

and development. Therefore, the mitigation of its removal must include restoration of some of the damage done by location of the plant. Some possible mitigation projects are obvious: the federal government (not necessarily under the auspices of DOE) should fund the purchase of the neighboring Barnes Works site to facilitate its long-term preservation and potential reconstruction. The same should be accomplished for other area prehistoric earthworks in cooperation with area preservation groups and conservancies.

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**Response:** The U.S. Department of Energy (DOE) thanks you for your attendance at its public meeting and your participation in the public comment process. DOE is responding to those aspects of the comment related to the contents and supporting information for the Process Buildings proposed remedy and the decision process. The commenters' other claims are unrelated to the information offered by DOE for public comment. The aspects of the comment relevant to the Process Buildings decision are: (1) the reuse of buildings and/or structures, (2) National Historic Preservation Act of 1966 (NHPA) compliance, (3) the public involvement process, and (4) the combination of the two decisions. All aspects of DOE's decision process have been conducted in accordance with its legal, statutory, and regulatory requirements, contrary to the commenters' claims otherwise.

**Reuse of Buildings and/or Structures.** The Process Buildings Remedial Investigation/ Feasibility Study evaluated the decontamination and decommissioning (D&D) of the Portsmouth Gaseous Diffusion Plant (PORTS) buildings and structures, and the Process Buildings Proposed Plan identified the D&D alternative as the preferred alternative for the facilities evaluated. A renovation and reuse alternative for the X-300 Control Facility, as noted in the comment, would not be viable because of its deteriorated condition; potential contamination within the facility interiors, infrastructure and subsurface; and the lack of any future mission need. Furthermore, X-300 is in the middle of the PORTS site. Access to it would be precluded during D&D, retaining it would both impede and complicate D&D, and protection of it for a future use would increase project costs.

DOE, with the Ohio Environmental Protection Agency (Ohio EPA) concurrence, is making the decision to demolish the buildings to address environmental risks and hazards. While the Southern Ohio Diversification Initiative is the designated Community Reuse Organization for PORTS, their input on this decision was considered with every other stakeholder comment on this decision. The decision regarding what buildings "stay and go" rests with DOE with Ohio EPA concurrence.

**NHPA Compliance.** DOE has worked with cultural resources professionals to develop a number of robust mitigation measures to address the adverse impacts to historic properties at PORTS (the measures are noted in Section 13.2.2 of the ROD). These measures aim to educate the public about PORTS and its unique Cold War history, provide context to the PORTS site within the larger history of Pike County and the Scioto River Valley going back to prehistory, create outreach opportunities, and optimize interpretive values. These comprehensive measures address the prehistory of the area, the site as a whole (they are not limited to the area within Perimeter Road), and extend to a number of individual buildings.

Examples of these measures include the Virtual Museum, preservation of original site panoramic photographs showing building construction, and the preparation of Historic American Buildings Survey/Historic American Engineering Record documentation.

**Public Involvement Process.** DOE has complied with, and in some cases exceeded, all requirements and guidance regarding public notification of the Proposed Plans, distribution of the Proposed Plans, timing and conduct of the public meeting, and submittal of comments. Despite the weather the night of the meeting, it was well-attended, including one of the commenters. Of the 135 people who signed in at the meeting (not everyone signed in), less than 20 were in attendance from Fluor-B&W Portsmouth LLC, DOE, or the regulatory agencies in support of the meeting. Other site employees who may have attended the meeting did so on the basis of a personal decision and as a stakeholder. Twenty-nine community members provided comments on either decision at the meeting, either during the meeting to the audience or directly to the court reporter. The decision offered for public comment was not pre-made, and all comments received were considered in selecting the final remedy. DOE is responding to specific topics raised in relation to DOE's public comment process.

1. **Public notifications.** The National Oil and Hazardous Substances Pollution Contingency Plan (40 *Code of Federal Regulations* 300), more commonly called the National Contingency Plan or NCP, is the federal government's plan for responding to both oil spills and releases of hazardous substances (including radioactive materials). As required by *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* between Ohio EPA and DOE, DOE is to follow NCP requirements in making building/structure and waste management decisions at PORTS. The NCP requires DOE to publish a notice of availability and brief summary of the Proposed Plan in a major local newspaper of general circulation. The U.S. Environmental Protection Agency (U.S. EPA) guidance developed to provide direction for groups remediating sites under the NCP states that "the announcement of the availability of the Proposed Plan and [Administrative Record] AR File should be made at least two weeks prior to the beginning of the public comment period so that the public has sufficient time to obtain and read the Proposed Plan." DOE followed this guidance and issued public notice of the Proposed Plan on October 29, 2014. The comment period opened 2 weeks later on November 12, 2014.

Guidance provided by U.S. EPA was followed in notifying the public about the Proposed Plans and public meeting. In addition to the newspaper notices placed 2.5 weeks before the public meeting, DOE advertised the public comment period, availability of the Proposed Plans, and the time and date of the meeting on local radio stations in the Pike, Scioto, Ross, and Jackson county region the week before the public meeting. Over 500 fact sheets were sent to the PORTS stakeholder mailing list, which includes fence-line neighbors, Native American Tribal Nations, and interested members of the public including consulting parties, providing notification of the public comment period, availability of the plans, and time and date of the public meeting. DOE also placed copies of the Proposed Plans in four local county libraries, the DOE Environmental Information Center, and on the DOE and contractor Internet websites.

2. **Duration of the public comment period.** The NCP requires offering a 30-day public comment period. Because the public comment period was scheduled to occur during

the holidays, DOE offered an extended comment period of 60 days, starting on November 12, 2014, and ending on January 11, 2015. As requested by the commenter, DOE extended the public comment period an additional 60 days to March 11, 2015, making the total comment period duration 120 days.

- 3. Public Meeting.** The meeting was held early in the comment period to provide the public information that may have been helpful to them while reviewing the documents and to answer any questions they may have had. It was decided to provide an opportunity to receive public comments at the meeting in the event that members of the public had an opinion during the early phase of the review period. The format of the public meeting provided two distinct opportunities for public comment, one for the Process Buildings decision and one for the Waste Disposition decision.

There were many avenues including the public meeting to obtain additional information about the Proposed Plans. The Proposed Plans provided stakeholders with points of contact at both DOE and Ohio EPA for further information, along with a toll-free line available 24 hours a day, 7 days a week, to receive stakeholder inquiries. Additionally, there were many ways to submit comments to the proposed remedies including the public meeting. As discussed at the meeting and in the Proposed Plans, comments could be submitted to DOE by email, by postal mail, or by fax.

- 4. Technical Assistance Grants.** Technical Assistance Grants are part of a U.S. EPA program that are only available at Superfund sites that are on the U.S. EPA's National Priorities List (NPL) or are proposed for listing on the NPL, and for which a response action has begun. PORTS is not an NPL site, nor is it proposed for listing on the NPL.

**Combination of two decisions.** The purpose of the Proposed Plan is to facilitate public involvement in the remedy selection process. There is no requirement in the NCP or any other regulation that one Proposed Plan be offered for public comment before a related Proposed Plan is offered for public comment. Because the decisions are closely linked, and for the convenience of the public, the public review and comment periods were scheduled in parallel. It was viewed to be more advantageous to the public to consider both Proposed Plans at the same time.

The comment indicates that waste disposition alternatives cannot be properly evaluated until the decision is made to demolish the process facilities and the volume of waste to be generated is known. The comment suggests that the No Action alternative for buildings or the option to dispose clean material as fill or architectural mounds as options would change the waste disposition evaluation. The No Action alternative for buildings cannot be selected because it is not protective of human health and the environment and therefore does not comply with federal and state law. The other options suggested have been shown to not be viable. Therefore, because there is only one viable D&D alternative, there is no need to wait until the Process Buildings decision is officially made before waste disposition alternatives are evaluated and one selected.

2.17 Comment from Dan Minter.

Again, I'm Dan Minter. On this proposed plan, I've got a couple things I want to outline that I think are important.

Just a real quick background, I guess, I'm a lifetime resident, an SSAB Board member and also Vice-Chairman of SODI.

The recommendation on this particular one is to maintain critical infrastructure. The process is also involving the D&D, and there was some discussion about providing facilities to be reused in the interim, that that's still a process that can happen. I think that's important to consider that as an option, and also preserving the infrastructure.

As you know, this facility has 27 miles of rail and road. You have 2,200 megawatts of power that can be brought in or taken out via the transmission lines. You have over 20 million gallons of make-up water. That infrastructure makes this facility very advantageous or attractive to the economic development in the future, and maintaining those are critical. So I would recommend that that be part of the process as well. That's my comment. Thank you.

**Response:** The U.S. Department of Energy (DOE) thanks you for your attendance at the public meeting and your participation in the public comment process.

DOE understands the public's desire for improvements to the existing infrastructure to help reindustrialization. The scope of the selected remedy includes the potential removal of essentially all man made improvements supporting the gaseous diffusion plant (GDP) including the site rail, roads, power, and water treatment systems. However, DOE is committed to work with the community, including the Southern Ohio Diversity Initiative, to identify those opportunities where infrastructure can cost effectively remain behind after cleanup is complete. It is important to note that DOE has not currently been appropriated, or expects to be appropriated, any funds that would allow DOE to spend those funds on maintaining or upgrading existing infrastructure solely for the purpose of reindustrialization by future users of the facility after transfer. DOE's appropriations are for the purpose of cleaning up the GDP. With that said, the reasonably anticipated future land use, i.e., reindustrialization after transfer, is a vital component of the overall cleanup approach.

2.18 Comment from Will Hendersen.

My comments are in regards to the large amount of steel that exists inside of the process buildings. I have continued to make remarks in regards to recycling and asset recovery. These remarks will be in line with that as well.

The asset recovery and reuse program that's currently in place needs to be expanded. There needs to be a consideration given to what the cost would be if you were to take that material and place it into the on-site disposal cell. Because every single piece of material that goes into the on-site disposal cell has a price tag with it, gentleman. That price tag needs to be offset. So if we can go ahead and take that into consideration now, that makes recycling the steel I-beams, that exist currently inside of the facilities, cost effective to recycle. Whereas, on their surface, if you just looked at them as a steel I-beam, their value would be inconsequential. It would be cheaper to actually just manufacture a new one.

But I think it's ill-advised to look at it in that perspective, without taking into consideration the reduction and on-site disposal cell footprint. That can be achieved by reusing those I-beams.

Likewise, a lot of the foundations that exist on the facilities currently, that material can be ground up and reused for roadbeds, future roadbeds, and that's material that doesn't have to be brought in or purchased from some other location. It's easy enough to do, to set that aside for the future safety, provided that, obviously, there's no high-level of waste associated with that material. That's really my remarks. Thank you.

**Response:** The U.S. Department of Energy (DOE) thanks you for your input regarding the potential for future recycling and reuse at the Portsmouth Gaseous Diffusion Plant (PORTS). DOE remains committed to recycling equipment and material from the buildings and structures at PORTS. DOE's decision concerning recycling and/or reuse is part of the Waste Disposition decision. The Waste Disposition Record of Decision adopts the following text, which is consistent with statements found in the Remedial Investigation/Feasibility Study: "DOE is committed to the recycling and/or reuse of materials generated through [decontamination and decommissioning] D&D of the [gaseous diffusion plant] GDP facilities, in compliance with [applicable or relevant and appropriate requirements] ARARs. Prior to implementing recycling, DOE will evaluate and document the benefits (including disposal volume savings) against the additional costs of completing the action, implementation issues, and efforts with implementing associated policy issues. DOE will evaluate the individual materials and regulatory waste types throughout implementation of D&D and recycle and/or reuse materials at DOE discretion." DOE must maintain the ability to evaluate the benefits of recycling such as a smaller disposal cell against impacts including cost of preparing the material in order to be good stewards of the taxpayer's money.

DOE is committed recycling and/or reuse of materials when appropriate. DOE has estimated that 110,000 cy of material will meet the criteria for recycling during the implementation of Process Buildings and Waste Disposition remedies.

DOE appreciates the specific suggestions regarding the recycling of I-beams and the concrete foundations under the facilities. DOE will take these recommendations into consideration during the remedial design process as preparations are made for D&D activities.

2.19 Comment from David Snyder, Ph.D., RPA.

This is in response to information provided at the November 17, 2014, public meeting regarding these two projects. The comments of the Ohio State Historic Preservation Office (SHPO) are offered in accordance with provisions of the National Historic Preservation Act of 1966, as amended and implementing regulations at 36 CFR 800.

Our responsibility in this matter is to speak to the preservation of important cultural resources as the State's preservation agency and to conduct a thorough and substantive review of documentation demonstrating that the federal agency has adequately completed a reasonable and good faith effort to identify historic properties in the Area of Potential Effects and has taken into account the effects of its undertaking(s) on historic properties. Our concurrence with federal agency findings is a fundamental requirement for the agency to demonstrate that it has fulfilled its responsibilities under the National Historic Preservation Act.



It is our understanding that the Department of Energy (DOE-Ports) will follow CERCLA law and regulations to comply with federal law, including the National Historic Preservation Act. We do not object to this. Federal and state agencies have set in motion actions that are adversely affecting historic properties. There is much work to be done to complete the necessary and important preservation efforts that federal and state agencies have initiated.

We acknowledge that DOE-Ports has conducted cultural resource studies and has initiated consultation with consulting parties. The studies contribute important information on the cultural resources throughout the DOE-Ports reservation (almost 4,000 acres) plus adjacent areas.

Our comments generally align under three basic principles: Process; Clarity; and Sufficiency. Our effort here is to make sure that we afford ample opportunity for consulting parties to work through the review to produce the best possible results. There are places where we are not sure of the steps that were followed to get us to where we are and we are not sure of what steps are to follow. It is one thing to have an abstract notion of the CERCLA review process; it is quite another to recognize where you are when you are in the middle of a discussion. In a number of instances it isn't clear to us what the final product will look like. We acknowledge that DOE-Ports has compiled information that contributes to our understanding of the history of this area. We are not sure if these initiatives will be sufficient. Importantly, how do we reach an understanding of what is sufficient and how do we know when we have completed that discussion? Regarding cultural resource preservation, we acknowledge DOE-Ports' work. Nevertheless, it is our opinion that there is work to be completed and that there are opportunities to improve upon the work that has been initiated. An integrating thread to our recommendations is to ask how the SHPO and consulting parties can help in making sure that preservation work is the best it can be for this undertaking?

The documentation presented at the November 17, 2014, public meeting describes in general terms the Applicable or Relevant and Appropriate Requirements (ARARs). Please clarify how the ARARs for the preservation and protection of cultural resources were selected and written.

- We recommend providing cultural resources consulting parties with a comprehensive list of ARARs associated with cultural resources and preservation.
- How can the consulting parties insert specific language that will become an ARAR? That is, what are the process steps that lead from a recommendation for a commitment (ARAR) that is designed to address a preservation concern to the inclusion of an ARAR as part of the formalized Record of Decision?
- How can the consulting parties provide recommendations for modifications of any of the ARARs associated with cultural resources and preservation?

The Process Building D&D summary document states that: "Some, such as the process buildings, are so large that any decontamination and remodeling efforts would be very expensive. If a reasonable proposal for reuse of a building identified for D&D under this remedial decision is received, the remedial decision could be modified to support such reuse" (Page 7).

- Our initial reaction is that this test of economically reasonable constitutes an unfair burden for a consulting party.

It is our understanding that consulting parties have offered several recommendations.

- Where recommendations have been made the SHPO requests that the DOE-Ports provide sufficient discussion that we may understand the basis of the decision to reject, accept, or continue evaluation of the proposal.
- As one example, the on-site/off-site disposal of demolition debris is framed in terms of a dichotomy – that is, off-site disposal requires transport across a half of a continent. But isn't is [sic] possible to construct an off-site disposal area within a few miles of DOE-Ports that would reduce transportation costs and accident risks significantly from the stated transportation costs and risks? We believe that further discussion of the range of possibilities under this recommendation would be helpful.

We acknowledge that DOE-Ports has initiated efforts to bring consideration of cultural resources into the review process. Please keep in mind that the comments and examples that SHPO presents here concerning process steps are not intended to be final or comprehensive.

From here we turn to questions and concerns about the content of the mitigation. We request clarification on what the mitigation will accomplish. How will the consulting parties know that mitigation measures have been completed? What is the measure of success for the mitigation measures? And, when the mitigation measures have been successfully completed, will the mitigation products be sufficient to meaningfully balance the losses from the adverse effects to cultural resources?

We wish to clearly slate that we do not doubt the intent to complete the proposed mitigation measures. Our questions and recommendations are intended to open opportunities for a robust discussion that allows for the possibilities of expanding or focusing the scope and coverage of the cultural resources mitigation measures.

The mitigation measures include documentation of buildings prior to demolition. The focus is on buildings that are of considerable interest.

Please clarify provisions to archive this documentation.

- Who is serving as the archive? What is the authority and capacity for the archive to operate?
- Will the archive have qualified personnel? Will the archive be able to provide access to the public?
- Will it provide access to qualified researchers?

Perhaps a helpful starting point for starting a discussion on the archiving of documentation of the buildings is for DOE-Ports to describe what the archive will look like. In general we understand that the archive will be made up of primarily paper documents with several different kinds of documents including blueprints, photographs of the area before, during, and after construction.

- Will the documentation of the buildings compiled as part of the demolition be contained in bound volumes?
- Is the archive designed to maintain primarily paper documentation?

- What is the span of time that the archive is designed to maintain documents? And then what? Is the archive designed to keep documents for 5 years? Or, 50 years?

DOE-Ports has demonstrated the capacity to store certain documents. However, it isn't clear if this capacity will be maintained unless there are specific provisions made in the commitments to provide for the extended maintenance of this capacity. To this end, we recommend additional provisions to establish the authority and extent of the commitment for DOE-Ports to serve as an archive.

- We recommend that DOE-Ports should conduct a study focused on the long-term responsibilities to archive a wide range of documents.
- One of the products of this study should be the preparation and agreement on an archive operation plan.
  - This plan should include guidance on steps that DOE-Ports will take before deaccessioning documents and before transferring portions of the collections to another archive.
  - That is, it is expected that paper documents will be digitized. The guidance should lay out the steps that DOE-Ports will follow in deciding whether to also retain the original paper document, transfer the original paper document to another facility, or to destroy the original paper document.
  - Who will make these decisions? How will other consulting parties be involved in the decision making?
  - How will the decision be recorded in the archive? That is, think of the records for each document in the archive as a chain of custody. Would a future researcher be able to clearly determine what documents are archived, how these documents came to the archive, and whether or not the documents that the researcher would be looking at are original?

The ARARs for cultural resources include general descriptions of mitigation measures to provide for the setting aside of artifacts from the buildings. DOE-Ports has begun the process of creating a collection of artifacts and developing displays to exhibit these artifacts.

There is much needed to clarify the objectives of these measures and how the consulting parties will know that they have been successfully completed.

- We recommend that DOE-Ports prepare a collection management plan based on generally accepted collection management practice standards.
  - The plan will provide guidance on selecting and employing a system of artifact cataloging.
  - What standards will be used in deciding to collect and accession artifacts? What will catalogue records look like? Will the public have access to the catalogue?

- We recommend that DOE-Ports prepare a study of short term and long term projected costs.
- What are the projected costs to maintain the inventory and the artifacts in the collection? Who is responsible for funding collection management?
- What are the professional standards that will be applied to personnel with responsibilities for managing the collections?
- What is expected of DOE-Ports in terms of funding and support? What is required of DOE-Ports if there are funding shortfalls that threaten the maintenance of the collections?

In the ARARs DOE-Ports speaks of a virtual museum and a virtual record of the major buildings. It isn't clear what these terms mean, and perhaps more importantly it isn't clear how we will recognize when these are established and complete? There are many questions concerning the long term objectives and viability of these mitigation measures. To be blunt, what is DOE-Ports' commitment?

- We recommend that DOE-Ports prepare a prospectus (a report that takes on somewhat the shape of something like a prospectus) that lays out for our general understanding the business model for the maintenance of the collections with the capacity and ability to use the collections to craft exhibits with value as educational tools in this region of Ohio.
  - Our initial reaction is that the maintenance and operation of a collections facility will require at least one building.
  - Is this what DOE-Ports expects?
  - Does DOE-Ports intend to integrate functions that include:
    - (1) an archive for documents;
    - (2) a collection facility to house and maintain artifacts;
    - (3) an office for the development and maintenance of digital, electronic, web-based images (a virtual museum);
    - (4) of [sic] office with the capacity to develop and present traveling educational exhibits (such as in schools); and
    - (5) a facility with physical exhibits that allow a traditional, hands-on, educational experience.

As an essential component in the development and construction of a museum / education facility, we recommend that DOE-Ports set aside, preserve, and maintain the X-300 Building (Plant Control Facility) as a permanent symbol of the Portsmouth Gaseous Diffusion Plant complex and for extended use within the museum / exhibits / education program.

- We recommend that the DOE-Ports prepare a business model report providing details on costs and support needed to preserve the 300 Building including long-term maintenance

costs, potential benefits from its preservation and integration with education programs, and potential liability (such as loss or acreage for development and restriction on kinds of development in the immediate vicinity of an educational facility).

The proposed On-Site Disposal Cell will result in adverse effects to important archaeological sites. The mitigation measures proposed in the Site-Wide Waste Disposition summary document (see Page 20) emphasize data recovery archaeological investigations at the site within the construction zone. In addition, these mitigation measures also provide for several other treatments including avoidance of other cultural resources, assurance of access to a cemetery (historic-era), and preparation of a comprehensive report.

- We recommend that DOE-Ports stipulate commitments to ensure the preservation and protection of those significant, identified, archaeological sites within the 4,000 or so acre DOE reservation that won't be directly impacted by the On-Site Disposal Cell construction.
  - We appreciate the efforts being made by DOE-Ports to manage sensitive information. It is important to establish legal protections that are not based exclusively on publically available documents that show sites where the consulting parties have agreed that construction will be restricted.
  - One way to approach this is to through deed restrictions coupled with shared agreements to restrict access to archaeological site information and with a clearly defined review process required prior to any development. As a part of establishing deed restrictions designed to restrict access to sensitive information, it may be helpful to create a series of green space areas. Within parcels of land that are somewhat larger than the archaeological sites we seek to protect there would be opportunities for environmental education programs, passive recreation, and conservation programs to help maintain connections with the abiding land of Pike County, Ohio.

On Pages 10, 11, and 12 of the Proposed Plan for the Process Buildings and Complex Facilities Decontamination and Decommissioning Evaluation Project summary document DOE-Ports enumerates a series of mitigation measures and mitigation ideas to achieve compliance with Applicable or Relevant and Appropriate Requirements (ARARs). We believe that DOE-Ports has initiated a promising discussion. By raising concerns and questions it is our intent to enter into and participate in this discussion. We seek to ensure clarity and sufficiency by carefully following the legally established procedures. And in so doing, it is our hope that the mitigation measures can be successfully completed, meet our shared expectations, and result in a better outcome than any of the consulting parties could achieve alone.

At this time we are not sure that the brief, thumbnail, descriptions of the cultural resource management mitigation measures will fully comply with the ARARs and we are not sure that the brief, thumbnail, descriptions of the ARARs provides for sufficient coverage to comply with the laws that require preservation of important cultural resources.

In essence, a distillation: you might look at the questions and comments we raise as a request for an owner's manual.

- What tools will be needed to maintain and use the information that DOE-Ports has compiled and is continuing to compile from the conduct of surveys to identify cultural resources and the acquisition of collections to preserve artifacts that can help us tell the stories intertwined with this DOE reservation?
- How are the consulting parties to gain access to and obtain these tools? And, how shall we use these tools?
- We recommend that DOE-Ports pursue consultation concerning "the creation of an Interpretative Center that would provide a centralized location containing information on the history of the plant and the region, including aspects of the prehistory, and provide a location where items salvaged from the gaseous diffusion plant and historic artifacts could be displayed" (ibid).
- What are key provisions in the business models from successful regional museums/collections/interpretative centers? What goes into a budget for this kind of institution and facility?
- What are the guidelines and steps to preparing and submitting successful grant applications?
- What qualities in the organizational structure of successful museums best support the creative development of educational displays?

In sum, the mitigation measures for cultural resources create a mission, begin to lay out a sense of purpose, and offer a direction. We need to make sure that we are working together to successfully assemble these initiatives and launch an institution that is capable of carrying on the preservation work that DOE-Ports has started.

As a starting point, we recommend:

- (1) Preservation of the X-300 Building (Plant Control Facility) in place as an enduring museum,
- (2) Preparation of studies that provide business models to guide DOE-Ports and the consulting parties in creating the kind of institution that is capable of serving as a repository for a diverse range of materials and artifacts as well as supporting creative development of educational displays, and
- (3) Establishment of a long-term commitment by DOE-Ports to assist in a deliberate effort to acquire the necessary real estate to allow the institution described above to grow and thrive in Pike County.

Any questions concerning SHPO comments and advice regarding the Process Buildings and Complex Facilities D&D Proposed Plan and the Site-Wide Disposition Proposed Plan should be addressed to David Snyder at (614) 298-2000, or by email to dsnyder@ohiohistory.org. Thank you for your cooperation.

Sincerely,

David Snyder, Ph.D., RPA, Archaeology Reviews Manager  
Resource Protection and Review

**Response:** The U.S. Department of Energy (DOE) thanks you for your comments. Points made in the comments have been responded to below.

**1. CERCLA process-related comments**

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA) decision-making process results in four documents (the first two are often combined) – the identification and study of a problem to ensure it is understood, in particular with regard to the nature and extent of contamination and resulting risk that is to be addressed (the Remedial Investigation [RI]); the identification and evaluation of the various means – alternatives - to address the problem effectively so risks are reduced (the Feasibility Study [FS]); a presentation to the public of the materials prepared that describes the problem and proposes a means to address it (the Proposed Plan), and the decision (the Record of Decision [ROD] including a Responsiveness Summary). Once a CERCLA decision is made, the selected remedy is then implemented. It is through the Proposed Plan that formal input from the public, of which consulting parties are a part, is sought. However, DOE-Portsmouth Gaseous Diffusion Plant (PORTS) has been meeting with members of the public to discuss the cultural resource aspects of site clean-up and the CERCLA clean-up process since 2009. The Ohio State Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation, and the DOE Federal Preservation Officer have been involved in these efforts. DOE has also been coordinating on a government-to-government basis with the Eastern Shawnee Tribe of Oklahoma, the Absentee Shawnee Tribe of Oklahoma, The Shawnee Tribe, and the Seneca-Cayuga Tribe of Oklahoma, all of whom are descendants of the ancestral Shawnee tribe who inhabited Southern Ohio and the region.

With regard to where cultural resources information ties into the CERCLA process at PORTS, cultural resource surveys of archaeological and architectural features have been performed throughout the RI and FS phases. A wide range of studies were conducted to support the Waste Disposition decision; for example geologic, geophysical, environmental, groundwater and other technical attributes of siting a disposal cell were considered. Site selection for the planned On-Site Disposal Cell (OSDC) was based on those critical factors. Cultural resource information, in particular the location of prehistoric archaeological sites, was considered and adjustments were made as much as possible to the configuration of the planned OSDC. The history of the overall study and alternative analysis and siting adjustments for protecting historic properties are explained in the Waste Disposition Proposed Plan, which was issued for public review and comment.

Likewise, during the Process Buildings RI/FS, the buildings at PORTS were evaluated to identify historic properties and determine their significance in both telling and understanding the PORTS Cold War-era story. Varying levels of documentation were identified for development that would enable comprehensive interpretation as well as an understanding of select individual resources. Please refer to the Process Buildings RI/FS for additional details. Commitments made in both the Waste Disposition and Process Buildings RODs, of which this Responsiveness Summary is a part, are binding on DOE. The comments received on both the Waste Disposition and Process Buildings Proposed Plans have been evaluated. DOE

may seek additional input from the Ohio SHPO, Native American Tribal Nations, or other members of the public regarding implementation of the measures finalized in the RODs, especially where the unique skills of archaeologists, cultural resource management professionals, and architectural historians would benefit the implementation.

## **2. Applicable or Relevant and Appropriate Requirements (ARARs)**

ARARs are laws, regulations or other promulgated requirements that are *applicable* (“A”), or *relevant and appropriate requirements* (“RAR”) to an action to be taken under CERCLA. In the case of the National Historic Preservation Act of 1966 (NHPA), it is applicable due to the proposed federal actions at PORTS. The list of ARARs for the Process Buildings decision and the Waste Disposition decision are found in Appendix A of the respective RODs.

ARARs are formal, promulgated requirements and stand as they were written. An ARAR is not a commitment, but a law or regulation, the substantive compliance with which a CERCLA action must follow if the resource is present. DOE has included commitments on substantive compliance in the ARARs appendix in each ROD for each CERCLA decision. The commitments are intended to address the adverse effects to the involved historic properties. In the case of the Process Buildings decontamination and decommissioning (D&D), the measures are designed to mitigate adverse effects to the historic properties that would be affected by the selected alternative, i.e., D&D. For the Waste Disposition decision, the measures are designed to mitigate the adverse effects to a prehistoric archaeological site that is collocated within the vicinity of the planned OSDC area.

DOE has developed the mitigation measures based on input sought and received throughout the CERCLA process. DOE has obtained the services of cultural resource professionals and has incorporated their input in the proposed mitigation measures. Although the Proposed Plans are the first formal solicitation of input, many opportunities to seek and provide feedback from the public have occurred over the past 5 years. DOE views the PORTS reservation in its totality and has designed mitigation measures for both the DOE-built environment and the prehistoric resources that provide for a broad range of interpretation opportunities. Comments and ideas for additional mitigation measures received during the Proposed Plans comment period have also been evaluated. It is important to note that all recommendations are considered and inform DOE’s analysis and decision-making, although not all recommendations may be implemented.

## **3. Specific comments regarding recommendations**

Regarding reuse alternatives for process buildings or other buildings included in the Process Buildings decision, these buildings are proposed for D&D because they pose risks and hazards to human health and the environment if left in place. No cost-effective alternative use has been identified for any buildings.

Recommendations were made to consider alternative near-by disposal locations at PORTS which would eliminate potential impacts on archaeological resources at PORTS.

**Locate a Site Within the Ohio Valley.** Siting a new DOE disposal facility off the Site was evaluated as a process option in the RI/FS. This evaluation can be found in Section 7 of the RI/FS. The specific suggestion to construct a new disposal facility in a limestone quarry was also evaluated by DOE in a separate technical paper that can be found in the Administrative Record File. This specific approach did not meet many state and federal laws and could not be developed into a full alternative for consideration and for those reasons was eliminated.



**Leave Clean Waste On Site as Contour Fill.** This option is a less desirable variation on Alternative 3. In Alternative 3, the waste streams are already segregated with the clean waste streams assumed to be disposed locally at a construction and debris landfill. Very little of that clean waste expected to be generated can be legally be classified as “clean hard fill” that could be used as contour fill. Mainly, only concrete can be crushed and placed as fill with no long-term maintenance or monitoring required. All other “clean” waste generated is considered solid waste by the State of Ohio and the disposal of such waste must occur in a managed landfill. If left on the Site, new solid waste landfills would have to be built in compliance with all Ohio EPA regulations. This suggested option would add solid waste landfills to PORTS in the main plant area, which would render the entire alternative even more expensive than the current Alternative 3.

#### **4. Mitigation measures**

**Learning about status of the measures.** The mitigation measures developed are intended to address the adverse effects to historic properties. DOE will provide periodic updates of the mitigation measures through newsletters, stakeholder meetings, Annual Site Environmental Reports and other means. Press releases may also be made regarding certain mitigation measures.

**Establishment of an archive re: documents and salvage items.** DOE will make arrangements for the management of the various records, blueprints, plans, photographs, and documents associated with numerous individual facilities as well as the plant overall, but no formal archive facility is planned to be established at PORTS. Information on the retained materials will also be managed in a searchable database. The database will be developed with the assistance of an archival professional and will be available for uncontrolled/unclassified documents and linked to the PORTS Virtual Museum. The PORTS Virtual Museum has been online since 2012 and DOE will also pursue a coordination effort to include a link to the Virtual Museum for the East Tennessee Technology Park (ETTP). The Oak Ridge Virtual Museum, presently in development, plans to link to other websites, including the PORTS Virtual Museum; however, final determination of the websites linked to the Oak Ridge Virtual Museum will be dependent upon both a classification and export control review. The gaseous diffusion technology used at PORTS is a duplicate of the type of process gas equipment developed and used at ETTP in the K-29, K-31, and K-33 buildings.

DOE-PORTS plans to coordinate with the Ohio SHPO and the DOE Federal Preservation Officer on the location options for the archive for retaining and preserving physical records/documents. DOE-PORTS will plan to share access to resources and information from and with other DOE sites, where opportunities exist. This also pertains to equipment. A large-scale photographic display of the equipment representative of the PORTS equipment is part of the Oak Ridge conceptual design. Stylized representatives of the authentic gaseous diffusion process equipment utilized in the K-25 and K-27 buildings will be housed in Oak Ridge, TN in a facility that is presently being designed, as funding permits. (Replicas are being utilized because authentic equipment cannot be displayed due to classification, radiological control, security, and export control factors.) Certain small pieces of PORTS equipment that do not have classification or security issues and may be safely handled and displayed will be made available for display. DOE-PORTS has a detailed inventory of the items that have been set aside and a number of these items are already being displayed in the

PORTS region. Acquisition, operation, and other available records for the pieces of equipment in the inventory have also been recorded.

PORTS was a part of the gaseous diffusion complex of the Atomic Energy Commission (AEC) (the predecessor agency to the DOE), with other gaseous diffusion plants in Paducah, KY and Oak Ridge, TN. Although the Piketon Ohio site was its own facility, it was very much a part of the larger complex which the AEC viewed as one operation with different locations. The duplicate technology was necessary to enable the diffusion complex to function cohesively. It is this duplicative nature that facilitates DOE-PORTS' optimization of its documentation and preservation efforts, linking to other physical and virtual resources at other locations wherever possible.

PORTS, along with its sister site in Paducah, KY, is the Cold War-era generation of gaseous diffusion, the descendant of the Manhattan Project era site in Oak Ridge, TN. DOE-Headquarters has established a Manhattan Project website on the Environmental Management (EM) webpage and it features all of the DOE Manhattan Project sites (the Oak Ridge sites [K-25, X-10 and Y-12], Los Alamos National Laboratory, and the Hanford Works). As a part of PORTS historic preservation research efforts, the DOE-Headquarters Federal Preservation Officer was contacted to learn about electronic and other resources available or planned for the Cold War. As a result of this inquiry, it was learned that a Cold War page has not been developed by DOE-Headquarters to date. It has been decided that PORTS will develop a Cold War webpage and populate it with information on PORTS, and link the DOE-Headquarters EM webpage to the PORTS Virtual Museum.

**Establishment of a facility/reuse of a facility.** The proposed Cold War web page, the shared resources, and the various avenues for interpretation of PORTS history, technology and equipment noted above, along with the other materials already issued, or in preparation, and measures planned or underway for PORTS constitute a wide variety of opportunities for learning about PORTS history, technology, and its contribution to the Cold War effort. DOE is not pursuing the creation of a facility for an archive and/or an Interpretive Center; however, before exiting the site, DOE will consider leaving a building for transfer to a local organization for the development of a multi-purpose facility to contain information about PORTS ranging from the prehistory to the cleanup mission.

**Virtual Museum.** The PORTS Virtual Museum is a web-based portal to a full range of information on PORTS history. It is actively managed and regularly updated with new information such as photographs, drawings, recorded oral histories, and links to documents. DOE is also preparing Historic American Building Survey and Historic American Engineering Record documentation, including archival photographs, which will be linked to the PORTS Virtual Museum. The Virtual Museum will be updated through the completion of the D&D effort and accessible into the future. It will also be expanded to include information on the Native American prehistory of the area around PORTS.

### **5. Archaeological Historic Property Preservation efforts**

It is important that DOE clarify that only one archaeological site will be affected by the planned OSDC. If in the future there were to be transfers of real property from federal ownership that included any of the other sites, DOE would evaluate the status of those sites and DOE obligations under the NHPA at that time. Additional mitigation measures related to

the prehistory of the area have also been added to Part 2 of the Waste Disposition ROD, Section 13.2.2.

## **6. Mitigation Measure Implementation**

In response to these comments, DOE has both clarified and expanded its description of the proposed mitigation measures in both RODs by providing additional information. DOE has also added further mitigation measures (please refer to Part 2 of the ROD, Section 13.2.2).

### 2.20 Comment from Dave McClay

Comments for both Process Buildings and Waste Disposition are as follows. The PORTS site needs to be left in a post D&D condition that's fully attractive and accommodating to safety conscious general and/or nuclear industry that will enable safe high labor grade paying jobs for this area. My perception of the condition would be equipped with fully functioning/upgraded utilities and services such as water, sewage, steam, electric, natural gas, waste services, railroad connection, internet backbone connection, restored helicopter pad/runway, emergency services 24/7 and maybe even laboratory and machine shop capabilities. However, it would be good to see a survey performed to find out what general industry is looking for much like DOE sought input, via Ohio University, from the community on the future of the site. As for the waste, after looking over the publications presented to the public, I am in favor of shipping all the waste off site because I don't see how buried waste on the property of the magnitude presented can be part of an attractive industrial friendly environment. The cost difference is considerable millions but in the larger picture it's only a year or two of standard budget and it may cost twice that or more if the waste needs moved again at some point in the future. Also, the offsite areas of disposal are much lower citizen population density and present a lesser potential problem in those locations. If a disposal cell is built as an industrial utility for the future use of the site I would [sic] to still see the process piping and equipment that came in contact with UF6 to not be placed into the proposed on site waste cell but rather shipped off or stored for recycling efforts to occur. Thank you for the opportunity for commenting on the future of our community.

David McClay  
Lucasville, Ohio

**Response:** The U.S. Department of Energy (DOE) thanks you for your participation in the public comment process. This comment and response have been included in both the Process Buildings and the Waste Disposition Responsiveness Summaries. DOE understands the public's desire for improvements to the existing infrastructure to help reindustrialization. The scope of the selected remedy includes the potential removal of essentially all man-made improvements supporting the gaseous diffusion plant (GDP), including site rail, roads, power, and water treatment systems. However, DOE is committed to work with the community, including the Southern Ohio Diversity Initiative, to identify those opportunities where infrastructure can cost effectively remain behind after cleanup is complete. It is important to note that DOE has not currently been appropriated, or expects to be appropriated, any funds that would allow DOE to spend those funds on maintaining or upgrading existing infrastructure solely for the purpose of reindustrialization by future users of the facility after transfer. DOE's appropriations are for the purpose of cleaning up the GDP. With that said, the reasonably anticipated future land use, i.e., reindustrialization after transfer, is a vital component of the overall cleanup approach.

Under a DOE grant, Ohio University has conducted additional research and outreach to identify viable industries to target for future use of the Portsmouth Gaseous Diffusion Plant based on a match of industry needs and site assets. Results of the Ohio University efforts will be publicly available at [www.portsfuture.com](http://www.portsfuture.com).

With regards to Waste Disposition, Alternative 2 was selected as the preferred alternative because it best satisfies all the criteria to be considered in selecting a remedy in accordance with the process prescribed by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 117(a), and the National Contingency Plan 40 *Code of Federal Register* 300.430(f)(2). Cost is not the only consideration in the selection of the preferred alternative.

Waste acceptance criteria have been developed for the On-Site Disposal Cell (OSDC) that ensure public health, workers, and the environment are protected during operations and after closure of the facility. As part of the waste acceptance criteria, process gas equipment (converters, compressors, and coolers) from the X-326 Process Building will not be allowed to be disposed in the OSDC. However, other process piping and equipment that meets the other elements of the waste acceptance criteria will be allowed to be disposed in the OSDC.

2.21 Comment from David M. Manuta, Ph.D., FAIC.

I write to you as a former Research Staff Member II (de facto chief scientist) at PORTS.

On the subject proposed plan for the Decontamination, Decommissioning, and Demolition (Triple D) in the Process Buildings and Complex Facilities at PORTS, my education/experience indicates that Alternative II is appropriate.

There is an absolute caveat that drives my thinking. We must inform the workers engaged in the Triple D activities what actually went on in these facilities. This information must include the presence of any residual hazardous chemicals and ionizing radiation. The appropriate personal protective equipment (ppe) must be worn by all workers.

We do not want managers, who were not actively employed at PORTS during the years of normal operations, to tell a young, inexperienced worker to "go do your job and get it done quickly." The last thing that any of us need is "a third generation of workers being sickened by their work at PORTS."

If there is any doubt about what a young, inexperienced worker can reasonably expect to encounter in Triple D activities, work must be stopped and a credible set of laboratory data be obtained prior to resuming work.

I would be delighted to speak with you and other key personnel at our mutual convenience regarding these comments.

**Response:** The protection of the public and the workforce during cleanup of the Portsmouth Gaseous Diffusion Plant (PORTS) is a top priority for the U.S. Department of Energy. The hazards associated with all work proposed at PORTS will be evaluated and appropriate protection measures will be implemented before any work is performed. Health and safety practices for

this project are based on the *Worker Safety and Health Program for the Portsmouth Former Uranium Enrichment Facilities (FUEF), Portsmouth Gaseous Diffusion Plant, Piketon, Ohio.*

2.22 Comment from Chick Lawson.

I'm going to sort of take up where Jeff left off. My name is Chick Lawson, again. Former employee representing NWA.

Basically, with the piping situation in the process buildings, we know that once the process is shut down, even though they gave it a clean bill of health, supposedly, that there was no deposits left in there, that they are still finding deposits, which basically what you've got was the old DOE understudy worker, which actually stands for sub-critical reaction.

Part of the problem with that, you have increased neutron activity, which that's what that rem wall detector is for, and they have found lots of neutrons. I know when we were working there, the neutron wasn't even configured into the doses.

I really worry about the younger workers now that are out there working and trying to do a good job. They are being told they don't have to worry, that the dust and things that they are sweeping out, when they are cracking these converters and different things open, that if it gets in you, just like they used to say in the old days, just go home, drink a beer, it will be in and out and you'll be okay.

That's not really true. DOE knows that's not true. NRC knew it wasn't true when they were here. A lot of these things were taking place, and I think you're going to have a whole new generation of sick workers because of the slow-cooker phenomenon that's in that piping.

I know of a situation where they cut pipe in the 26 building. We're talking down there around the 90 percent assay area. And when the pipe dropped, it had a two-inch opening from the product on one end, and the other end had – the supervisors – I could barely get my little finger in the hole.

Well, that wasn't supposed to be there. They got a clean read. Why did they get a clean read and have that large of a deposit? What's really scary about that, is that when that supervisor saw it and he said, "That's product. That can't go over in that waste bin." The supervisor over him come in and says, "Yes. That's not product," and he tells the guy to pick it up and put it in the waste bin.

My question is, when it went into the waste bin, where did that go? And where do some of those other pieces of pipe go?

The other problem we have with that, with that high of an assay – you are educated gentlemen, you know about this. If someone throws another one in there, a deposit of that size that's not supposed to be there, and one lands on top of the other, you know what's going to happen. You're not going to have your 24-inch configuration, and you're going to have a criticality, and then you're going to have somebody dead. That has happened before in the past. It happened down at Oak Ridge. That's all well documented when the guy died down there.

We have had situations in the 705, when they have cracked them open, and when the stuff fell out, we had a couple of deposits fall out, large amounts, and it looked like a fireworks display going off on the floor. I mean that literally. We would see those kind of things, because when they would escort certain things in, because of the high assay, we had to escort and put up perimeter securities and different things like that to deal with it.

Because of that, I am deeply concerned about some of the workers now that may not be getting the protections and the true education they really need to understand exactly what they are working with. Thank you.

**Response:** The U.S. Department of Energy (DOE) thanks you for your attendance at its public meeting and your participation in the public comment process. The protection of the public and the workforce during cleanup of the Portsmouth Gaseous Diffusion Plant (PORTS) is a top priority for DOE. The hazards associated with all work proposed at PORTS will be evaluated and appropriate protection measures will be implemented before any work is performed.

Characterization of stored materials, equipment, structures, and residual soils will be performed as part of the remedy to support worker safety and waste management and disposal decisions, as needed and in compliance with applicable or relevant and appropriate requirements (ARARs). Characterization techniques could include visual inspection to identify liquids or uranium material deposits, field surveys using mobile monitoring equipment, nondestructive assay to determine quantities of uranium-235 and other isotopes, and the physical collection and analysis of samples. The specific characterization approaches will be described in sampling and analysis plans submitted for review and approval/concurrence by the Ohio Environmental Protection Agency (Ohio EPA), as applicable. Detailed planning will also be conducted before equipment is removed and plans to conduct this work will be submitted for review and approval/concurrence by Ohio EPA before work is implemented. All work will be conducted safely and in compliance with ARARs. The gaseous diffusion plant in Oak Ridge is being demolished safely, and lessons learned from those demolition activities are being brought to PORTS.

2.23 Comment from Jeff Walburn.

My name is Jeff Walburn. I worked at the plant for 31 years. I have thousands of hours in the 326 process building.

To the uneducated eye or ear, it seems wonderful to suggest you just go in there and just cut that place apart. There's thousands of miles of pipe that have been there since 1954. If it were a '54 Cadillac, every bit of sludge and problem in that engine – I'm going to call it an engine, because that's what it's like, in mass, is still there. So when you take this apart, it should be taken off-site.

Now, DOE made that site under regulation as built, and if you ask them how it ran, they will tell you it ran this way, as long as it was running right. But because of the process, there's been other daughter products added to the site that were not there, that were not expected to be in the process. That's why they have to be renewed and cleaned and taken off-site.

If you want to really reindustrialize the place – just like Yucca Mountain was a DOE program, go out and educate yourself about a national program. You said it wasn't done in a vacuum, but it

was done in a vacuum, because all you want to talk about is Piketon and Waverly and Scioto County and Jackson County. But it is a national problem, and that track record is poor.

When the DOE has 4,200 cell phone and e-mails on why they fired the engineer at Hanford and ask for them, they say we're not giving them to you. And they say, okay, and just turn and wave their hands up and walk off. It wasn't going to be in litigation. Yeah, it will be under seal for a couple years. Any common worker will be starved to death.

Just like under the NRC, Metropolis, Illinois, three weeks ago, they had a UF-6 release. Under NRC, they tell everybody nothing left the plant. It got out in the community. The nephew of the Mayor of Metropolis was overcome in the AEP coal yard that was northwest of the plant, hit his head and was transported to the hospital. But nothing left the plant, and that's what we always hear.

So NRC, you switch back and forth on your regulatory, and you have done it here on this site. Every time that a new one comes in, they have no sense to what happened on the last person that was here, or no sense to what we should do to make it right to the community.

But I'm telling you that you don't live in a bubble, nor does Hanford nor does Yucca Mountain. Did Harry Reed make that a bad project, or does he just know that it is? But he gets the blame for shutting it down, because the dumping – they want to dump our waste in Nevada – which they should surely make a reservation somewhere, to find a place to dump it. But you suggest that you generated it here, that it should be dumped here. What you generated here is not what is here now.

It is not what the process was supposed to be. It should not be in the site. You transported the pilot plant, and I watched it be done in open coal trucks, interstate. They took the pilot plant from West Virginia – Joe Manchin – we have been talking to Joe Manchin. They know that the City of Huntington is being decimated by a \$250,000 fee each year on this pilot plant. You dumped it on our site.

Now you thought you could stamp that dump into oblivion at that plant. It just contaminated that plant. And the metal they made that went into racks and things that sold at Bed, Bath & Beyond, and places that went to Mexico, comes back maybe as spoons. That's a fact. It's documented.

**Response:** The U.S. Department of Energy (DOE) appreciates the input regarding the proposed remedy at the Portsmouth Gaseous Diffusion Plant (PORTS). DOE agrees that consideration of other experiences and lessons learned around the complex is very important to the success of future remedial actions at PORTS. The proposed decontamination and decommissioning (D&D) and waste management methods evaluated for implementation at PORTS were developed in consideration of the experiences at other DOE sites. The consideration of potential hazards during D&D will be important to ensure the protection of human health and the environment.

DOE carefully evaluated waste disposal options for PORTS, including the shipment and disposal of all waste off the Site. DOE believes the combined approach of on-Site and off-Site waste disposal is the best option for PORTS. It is estimated that shipping all the waste off the Site (Alternative 3 in the Waste Disposition Proposed Plan) would have twice the risk of a transportation-related injury and four times the risk of a transportation-related

fatality as compared to Alternative 2 in the Waste Disposition Proposed Plan, the preferred alternative. This increased risk tipped the balance towards selection of Alternative 2.

The cost difference between shipping waste off the Site versus using on-Site disposal for most of the waste is estimated as \$228 million in the Proposed Plan. The benefits of the combined on-Site and off-Site disposal alternative, coupled with the difference of \$228 million, are enough to tip the balance scales towards selection of Alternative 2 in the Waste Disposition decision.

2.24 Comment from Dan Minter.

[This is a Waste Disposition comment; however, it was also submitted to the Process Buildings email, so it is included on both.]

Statement prepared by Dan Minter, life-time resident of Southern Ohio, Vice Chairman of Southern Ohio Diversification Initiative (SODI) and Charter Member of the Portsmouth Site Specific Advisory Board (SSAB).

I submit this statement, first, as a lifelong resident of Pike County, (Literally, this hearing is held in the Waverly High School System the same High School that I graduated from and noting the proposed site of the Onsite Disposal Cell (OSDC) is next to the family farm that I grew up on as a child) and also as the Vice President of Southern Ohio Diversification Initiative (SODI) and a charter member of the Portsmouth Site Specific Advisory Board (SSAB). I was also an elected representative of the workforce in the 1993 to the 2009 time frame.

I, like many others, have no overwhelming desire to have any on site waste disposal at the Portsmouth Department of Energy Piketon Site. With this stated, and given the fact that onsite disposal already exists at the Piketon site, and given the very strong support to reuse the Portsmouth site for ongoing re-industrialization and economic growth for the region by the community, I could accept on-site disposal under very specific conditions. Simply stated, reuse, recycle, and consolidation, are three critical legs of a basic foundation to build a path of mutual success, and potential associated support. It is from this foundation, that a balanced approach was developed, and, if committed to and supported by the Department of Energy (DOE), it would stand to fulfill most of the interests and objectives involved.

This Onsite Disposal Cell (OSDC) or the Waste Disposition Summary Plan, and the subsequent Record of Decision (ROD) is significant on several levels. It helps ensure a regulatory process for timely and committed cleanup efforts, considerations regarding environmental impacts, costs, associated risks, as well as making land and infrastructure available for future reuse. These objectives need to be balanced to provide a balanced result. If this is accomplished, the results could satisfy numerous objectives, create and preserve high-quality jobs for the people of Southern Ohio, and create future jobs within a reusable industrial park for generations to come. My full and strong support towards such efforts is contingent up an [sic] equal like vision and commitment by the Department of Energy. Of course the public's safety and health is our first priority.

The consolidation of existing plumes and landfills within the perimeter road both provides needed soil for the proposed OSDC, and also remediates these areas. Consolidating both the plumes and the source materials, will help to reduce or eliminate the potential for such contaminants to



migrate off site and enhance reindustrialization reuse opportunities and future economic initiatives.

This is a key element in my conditioned support, as it provides the soil needed for the OSDC, and also takes actions that otherwise would have not been taken, such as the consolidation of current unlined and closed landfills within the targeted perimeter road area. These areas would have remained unaddressed and would stand as an impediment to any future economic and re-industrialization efforts. Also noting the source materials and contaminated plumes within the consolidation process will be placed in a modern, state of the art, lined OSDC that is significantly designed to be more protective to the public safety and health than the existing referenced landfills and associated plumes.

This approach also represents significant cost savings to the US Government and the US tax payer's as well. This proposed action accelerates the cleanup time line at a lower overall cost as opposed to offsite disposal. Even more significant savings exist when the long term mortgage costs associated with building maintenance and pump and treat associated with the identified plumes and landfills that are designated to be consolidated within the proposed OSDC.

Again, this set of actions remediates areas that otherwise would not have been addressed, making this prime real-estate available for re-industrialization and economic growth opportunities. This enhances the environmental footprint of the site, lowers overall costs and associated risks, and accelerates the timeline to complete cleanup efforts while making the prime real estate available for reuse all within a regulatory decision document, the ROD.

We also understand the proposed OSDC is enduring and irreversible after it is completed. Thus, I need to again emphasize that any such support is contingent upon an equal and like commitment by the DOE within the Proposed Plan and the final ROD. The current plan makes clear this is the proposed or preferred plan, however, the language needs to be stronger and more committed to this end. Likewise, the decision must be clear. Simply stated, the commitments by the DOE to recycle, reuse, and consolidate, need to be just as clear as any plans associated with the proposed OSDC.

It has been stated, "Say what you will do and do what you say." This is a very basic statement and path forward that is clear for all to understand and follow. It is from this, that I ask DOE to make clear what they are saying by providing stronger commitment language within the final regulatory documents and then execute or do what was committed to. The future success of the Portsmouth site and interests of the community are defined by this simple set of commitments and their execution.

In closing, support of this proposed action and the elements associated are and have been from the beginning, contingent upon the DOE's inclusion of committed and actionable language regarding recycling, reuse, and consolidation, of the plumes and landfills within the perimeter road as the end state vision of the site within the final ROD and the actions executed thereafter in the years to come.

Respectfully submitted,

Dan Minter

**Response:** The U.S. Department of Energy (DOE) thanks you for your attendance at the public meeting and your participation in the public comment process. DOE is responding to the request for mandatory, binding language in the Record of Decision (ROD) regarding the landfills and groundwater plumes individually.

1. **Consolidation of existing landfills within Perimeter Road:** DOE has had multiple meetings and discussions with local stakeholders regarding its commitment to removing the existing landfills. It is important to understand that these landfills all have final remedies in place, previously selected by the Ohio Environmental Protection Agency (Ohio EPA), that are protective of human health and the environment. Due to the regulatory situation, DOE cannot make a commitment to excavate the landfills in this ROD, but it remains DOE's intent to use contaminated soils from the landfills and groundwater plumes inside Perimeter Road as engineered fill for the On-Site Disposal Cell (OSDC). DOE also needs to maintain the flexibility to use alternate sources of fill (thereby modifying the degree to which DOE needs to excavate soil from the landfills) should conditions arise during implementation that diminish the efficiency, safety, or protection of the environment along with no longer being in the best interest of the project. The level of commitment presented in the Proposed Plan is consistent with that used in the ROD.
2. **The elimination of contaminated groundwater plumes:** DOE has had multiple meetings and discussions with local stakeholders regarding its commitment to using the plume soils as the source of fill for the OSDC. It is important to understand that Ohio EPA has already selected final remedies on most of the plumes that are protective of human health and the environment. Ohio EPA will also select a final remedy on any remaining plumes, regardless if the plume soils are used as fill, to ensure protectiveness. Due to the regulatory situation, DOE cannot make a commitment in the ROD to excavate the plumes, but it remains DOE's intent to use contaminated plume soils as fill. DOE needs to maintain the flexibility to use alternate sources of fill should conditions arise during implementation that diminish the efficiency, safety, or protection of the environment along with no longer being in the best interest of the project. The level of commitment presented in the Proposed Plan is consistent with that used in the ROD.

2.25 Comment from Theresa Workman.

Mrs. Kristi Wiehle (DOE),

Comments and thoughts on both process buildings and waste disposition are as follows. It is important to me for the future of this site that we keep it clean and attractive for the opportunity to re-industrialize. It is vital to this area and the people in the surrounding communities that we think about the long term effects of the decisions that we are making today. I know that it may seem like the thing to do and it may save money today, but what about the future of the site and the community. It would be easy to demolish the buildings and bury them in the waste disposition cell but I am asking that DOE think of the future and how this will impact decisions that will have everlasting effects on the site from this point on. Doing this will leave other industries and companies looking at this site as a waste grave yard and discourage them from considering this site as a choice to bring new business. This community needs new industry and business and this will put an end to the possibilities and hopes for the future. It may save a dollar today but think of how much this will cost our future and the future of the surrounding

communities. The waste should all be shipped off site and the reservation should be cleaned up. This is the only way to keep it an attractive desirable value [sic] that will bring industry and jobs for the future of our communities.

Thank you for this opportunity to comment and voice my thoughts on the future of this site and the surrounding communities that will be impacted on the decisions that will be made.

Sincerely,

Theresa Workman  
FBP/USW Safety Representative  
Fluor-B&W Portsmouth, LLC  
P.O. Box 548  
Piketon, Ohio 45661  
Office: (740)289-2331 Ext: 4159  
E-mail: [theresa.workman@fbports.com](mailto:theresa.workman@fbports.com)

**Response:** The U.S. Department of Energy (DOE) thanks you for your participation in the public comment process. DOE does not prefer a combined on-Site/off-Site disposal alternative solely because the cost is lower. The alternative was selected because it provides a safe, balanced solution for all communities affected by the decision and is the most cost effective.

Community economic development professionals have commented on the Proposed Plans, stating that the proposed construction of an on-Site disposal cell, when combined with excavation of all the landfills and plumes within Perimeter Road for fill, provides a better opportunity for reuse of the Portsmouth Gaseous Diffusion Plant (PORTS) than shipping all the demolition waste off the Site and leaving the existing landfills and groundwater plumes in place. Removal of existing landfills and plumes as part of construction on an on-Site disposal cell (OSDC) can make more of the industrial area within Perimeter Road available for redevelopment. Based on this feedback, DOE does not believe that construction of an OSDC will make PORTS less attractive to other industries.

#### 2.26 Comment from Todd Downing

GM

Current member working on the Project in the X326.

My view would be we get ready to have everything shipped by rail.

The cost difference not that much.

Considering we put any of this in ground it will never be reused.

Dressing in 3 layers sometimes just to get it ready to lower to begin process of disposal.

When this plant was built that had everything shipped in.

The right thing to do would take more time to disassemble and ship out by rail and truck.

How can we put a cost on future development and safety of all the surrounding residents?

Government used this area for 50 plus years the least they could do is make sure they put it back in original condition.

Thx for your time

Todd Downing  
308 E North  
Waverly, OH 45690

**Response:** The U.S. Department of Energy (DOE) appreciates your participation in the public comment process. This comment and response have been included in both the Process Buildings and the Waste Disposition Responsiveness Summaries.

DOE evaluated shipment and disposal of all waste off the Site (Alternative 3) and compared it to disposing of most of the waste on the Site with a portion disposed off the Site (Alternative 2). It is estimated that shipping all the waste off the Site (Alternative 3) would have twice the risk of a transportation-related injury and four times the risk of a transportation-related fatality as compared to Alternative 2, the preferred alternative. In addition, the cost difference between shipping wastes off the Site versus using on-Site disposal for most of the waste is estimated as \$228 million in the Proposed Plan. These two reasons, in addition to the fact that excellent geologic conditions and an engineering design of an on-Site disposal facility that meets stringent federal and state requirements means that waste can be disposed at the Portsmouth Gaseous Diffusion Plant safely for the long-term, were the basis for proposing Alternative 2.

It is true that any material disposed in a disposal facility would not be available for reuse, whether the disposal is on the Site or off the Site. The Record of Decision adopts the following text, which is consistent with statements found in the Remedial Investigation/ Feasibility Study (RI/FS): "DOE is committed to the recycling and/or reuse of materials generated through [decontamination and decommissioning] D&D of the [gaseous diffusion plant] GDP facilities, in compliance with [applicable or relevant and appropriate requirements] ARARs. Prior to implementing recycling, DOE will evaluate and document the benefits (including disposal volume savings) against the additional costs of completing the action, implementing issues, and efforts with implementing associated policy issues. DOE will evaluate the individual materials and regulatory waste types throughout implementation of D&D and recycle and/or reuse materials at DOE discretion." DOE is committed to recycling and/or reuse of materials when appropriate.

Safety is of utmost importance to DOE and as such, workers handling contaminated materials must be protected during their work. Dressing in personnel protective equipment to handle contaminated equipment will always be required whether waste is disposed on the Site or off the Site.

**ATTACHMENT 3.1: LIST OF COMMENTERS WHO SUBMITTED COMMENTS  
VIA TEMPLATE LETTER**

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<b>Name</b>	<b>Address</b>	<b>County</b>
<b>Format #1</b>		
Curtis Adkins	2419 Duck Run Road Lucasville, OH 45648	Scioto
William Blevins	1130 Upper Twin Creek Road Blue Creek, OH 45616	Scioto
Brandon Bradshaw	730 Calverts Lane West Portsmouth 45663	Scioto
Kimberly Clark	70 Norfolk Avenue Wheelersburg, OH 45694	Scioto
Dani Coleman	1228 Haig Avenue West Portsmouth, OH 45663	Scioto
Dave Coleman	1228 Haig Avenue West Portsmouth, OH 45663	Scioto
Margaret Coleman	320 Custus Street West Portsmouth, OH 45663	Scioto
Vincent D. Coleman, Sr.	320 Custus Street West Portsmouth, OH 45663	Scioto
Andy Copley	1887 Goose Creek Road Wheelersburg, OH 45694	Scioto
Cathy Copley	1887 Goose Creek Road Wheelersburg, OH 45694	Scioto
Tony Copley	1887 Goose Creek Road Wheelersburg, OH 45694	Scioto
Albert Franklin	19883 State Route 772 Waverly, OH 45690	Pike
Michelle Franklin	19883 State Route 772 Waverly, OH 45690	Pike
Sherrie Halstead	339 Coleman Road West Portsmouth, OH 45663	Scioto
John Howell	1941 Haig Avenue West Portsmouth, OH 45663	Scioto
Peggy Jones	1110 24 <sup>th</sup> Street Portsmouth, OH 45662	Scioto
Angela Kepp	1222 10 <sup>th</sup> Street West Portsmouth, OH 45663	Scioto
Ralph Kepp	1222 10 <sup>th</sup> Street West Portsmouth, OH 45663	Scioto
Derrick Nickell	341 Peat Moss Drive Columbus, OH 43235	Franklin
Phyllis Nickell	312 Valley View Drive Piketon, OH 45661	Piketon
Deanna Drew Phillips	121 Westgate Road West Portsmouth, OH 45663	Scioto
Joseph Roe	223 Hayport Road Wheelersburg, OH 45694	Scioto
Brittany Russell	Peat Moss Drive Columbus, OH 43235	Franklin
Gary Shope	1197 Hiles Road Lucasville, OH 45648	Scioto

<b>Name</b>	<b>Address</b>	<b>County</b>
Kyle Snyder	2776 Dutch Ridge Road Portsmouth, OH 45662	Scioto
Rick Ward	1376 Waldren Hill Road Piketon, OH 45661	Pike
<b>Format #2</b>		
Gary Adkins, Jr.	1192 Phillip Kuhn Road Oak Hill, OH 45656	Jackson
Jason Arnett	1738 Dry Run Road West Portsmouth, OH 45663	Scioto
Mark Bailey	190 North Bennett Avenue Jackson, OH 45640	Jackson
Scott Bauer	198 Briggs Road West Portsmouth, OH 45663	Scioto
John Bennett	1500 Rinehart Road Chillicothe, OH 45601	Ross
Josh Bentley	2400 U.S. Highway 52 Stout, OH 45684	Scioto
Autumn Brooks	1448 Rosemount Road Portsmouth, OH 45662	Scioto
Norman Brooks, Jr.	1448 Rosemount Road Portsmouth, OH 45662	Scioto
Billy Cantrell	1078 Milldale Road Portsmouth, OH 45662	Scioto
Greg Carver	10242 State Route 348 Otway, OH 45657	Scioto
Shaun Caudill	54 Stockham Hill Road West Portsmouth, OH 45663	Scioto
Willie Clark	70 Norfolk Avenue Wheelersburg, OH 45694	Scioto
Ralph Cole	991 Dry Run Road West Portsmouth, OH 45663	Scioto
Tammie Cole	991 Dry Run Road West Portsmouth, OH 45663	Scioto
Kenneth Coleman II	3221 Millers Run Fallen Timber Road Lucasville, OH 45648	Scioto
Kenneth Coleman III	3221 Millers Run Fallen Timber Road Lucasville, OH 45648	Scioto
Sami Jo Coleman	3221 Millers Run Fallen Timber Road Lucasville, OH 45648	Scioto
Susan Coleman	1601 Lester Street West Portsmouth, OH 45663	Scioto
Trevin Coleman	3221 Millers Run Fallen Timber Road Lucasville, OH 45648	Scioto
Mark Crabtree	2322 Arion Road Mc Dermott, OH 45652	Scioto
Joe Delong	1494 Slate Run Road Lucasville, OH 45648	Scioto
Dave Ellis	1250 Normandy Drive Portsmouth, OH 45662	Scioto
Ronald Emmons	3256 Conley Road Lucasville, OH 45648	Scioto



<b>Name</b>	<b>Address</b>	<b>County</b>
Amanda Evans	1601 Lester Street West Portsmouth, OH 45663	Scioto
Jeff Gambill	6989 State Route 73 Otway, OH 45657	Scioto
Dale Grant	4566 Poplar Fork Road Wheelersburg, OH 45694	Scioto
Noah Hall	5192 Rocky Fork Road Otway, OH 45657	Scioto
Adrian Harrison	1061 Dry Run Road West Portsmouth, OH 45663	Scioto
Camilla Harrison	1061 Dry Run Road West Portsmouth, OH 45663	Scioto
Tammie Harrison	1061 Dry Run Road West Portsmouth, OH 45663	Scioto
Michael Hickman	1231 24 <sup>th</sup> Street Portsmouth, OH 45662	Scioto
Justin Howard	240 Morgans Fork Road Waverly, OH 45690	Pike
Jim Howell	1941 Haig Avenue West Portsmouth, OH 45663	Scioto
Jimmy Howell	1941 Haig Avenue West Portsmouth, OH 45663	Scioto
Nelia Hunt	4633 New Rose Avenue Portsmouth, OH 45662	Scioto
Angela Keeton	386 Richard Road Minford, OH 45653	Scioto
Gary Keeton	386 Richard Road Minford, OH 45653	Scioto
Larry J. Keeton	113 Kulp Road Minford, OH 45653	Scioto
Susan Kellogg	132 Milew Drive Ironton, OH 45638	Scioto
Wayne Kellogg	132 Milew Drive Ironton, OH 45638	Scioto
Gladys Lewis	493 Junior Road Ironton, OH 45638	Scioto
Margaret Lewis	118 Custus Street West Portsmouth, OH 45663	(Blank)
Raymond Lewis	493 Junior Road Ironton, OH 45638	Scioto
William E. Lewis, Jr.	118 Custus Street West Portsmouth, OH 45663	Scioto
Robert Masters	P.O. Box 429 Jackson, OH 45640	Jackson
Greg Maynard	904 Slab Run Road West Portsmouth, OH 45663	Scioto
Amy Mcguire	74 Coburn Drive Mc Dermott, OH 45652	Scioto
Jake Mcguire	74 Coburn Drive Mc Dermott, OH 45652	Scioto
Joseph Mcguire	74 Coburn Drive Mc Dermott, OH 45652	Scioto

<b>Name</b>	<b>Address</b>	<b>County</b>
Luke Mcguire	74 Coburn Drive Mc Dermott, OH 45652	Scioto
Randy Mcguire	74 Coburn Drive Mc Dermott, OH 45652	Scioto
Jerry Messer	232 Country Club Drive Mc Dermott, OH 45652	Scioto
Melanie Messer	232 Country Club Drive Mc Dermott, OH 45652	Scioto
Clores Milstead	1117 Washington Boulevard (Fairview Avenue) West Portsmouth, OH 45663	Scioto
Don Milstead	1117 Washington Boulevard (Fairview Avenue) West Portsmouth, OH 45663	Scioto
Randy Mollett	1666 Logan Street Portsmouth, OH 45662	Scioto
Taylor Prince	54 Stockham Hill Road West Portsmouth, OH 45663	Scioto
Terry Roe	223 Hayport Road Wheelersburg, OH 45694	Scioto
Daniel Ross	295 Jones Run Road Otway, OH 45657	Scioto
Delbert Ross	402 Jones Run Road Otway, OH 45657	Scioto
Emily Ross	400 Jones Run Road Otway, OH 45657	Scioto
Kellie Ross	400 Jones Run Road Otway, OH 45657	Scioto
Scott Ross	402 Jones Run Road Otway, OH 45657	Scioto
Steven Ross	400 Jones Run Road Otway, OH 45657	Scioto
Barbara Runyon	55 Private Drive 1068 Ironton, OH 45638	Lawrence
Marlin R. Runyon	861 Township Road 161 South Point, OH 45680	Lawrence
Terry Shope	1197 Hiles Road Lucasville, OH 45648	Scioto
Davy Smith	1254 9 <sup>th</sup> Street West Portsmouth, OH 45663	Scioto
Austin Stephens	1844 Beekman Avenue West Portsmouth, OH 45663	Scioto
Wayne Stewart	1802 Pershing Avenue West Portsmouth, OH 45663	Scioto
Gary Thompson	423 Pleasant Grove Road Jackson, OH 45640	Jackson
Jennifer Throckmorton	1213 8 <sup>th</sup> Street West Portsmouth, OH 45663	Scioto
John Tolliver	1926 Washington Boulevard (Beekman Avenue) West Portsmouth, OH 45663	Scioto
John Weeks	2068 Snook Road Franklin Furnace, OH 45629	Scioto

<b>Name</b>	<b>Address</b>	<b>County</b>
Benjamin Wetta	991 Dry Run Road West Portsmouth, OH 45663	Scioto
Scott Williams	6524 State Route 220 Waverly, OH 45690	Pike
<b>Format #3</b>		
Alex Adams	164 Hoffman Lane Waverly, OH 45690	N/A
Randy Adams	804 Broadway Street Manchester, OH 45144	N/A
Jerry Adkins	8651 State Route 125 West Portsmouth, OH 45663	N/A
John Allen	4136 Mackletree Road Blue Creek, OH 45616	N/A
James Arnett, Jr.	4569 State Route 73 Otway, OH 45657	N/A
Darwin Barnes	2179 Mount Hope Road Otway, OH 45657	N/A
James Barnett, Sr.	1522 Grandview Avenue Portsmouth, OH 45662	N/A
Gary Bennett	417 Stanton Road Lucasville, OH 45648	N/A
Donald Billetter	2867 Dry Run Road West Portsmouth, OH 45663	N/A
Anthony Blanton	10816 State Route 73 Peebles, OH 45660	N/A
Jeff Browning	8724 Sentry Drive Florence, KY 41042	N/A
Mark Cales	1397 Harrison Road Jackson, OH 45640	N/A
Jerry Callihan	137 Crull Street West Portsmouth, OH 45663	N/A
Kelly Carver	1496B State Route 104 Lucasville, OH 45648	N/A
Mike Cassidy	3243 Conley Road Lucasville, OH 45648	N/A
Cole Coleman	1077 Dry Run Road West Portsmouth, OH 45663	N/A
Gary Coleman	1077 Dry Run Road West Portsmouth, OH 45663	N/A
Joseph Coleman	1250 12th Street West Portsmouth, OH 45663	N/A
Kari Coleman	1085 Dry Run Road West Portsmouth, OH 45663	N/A
Kenneth Coleman I	1108 Long Avenue West Portsmouth, OH 45663	N/A
Linda Coleman	1108 Long Avenue West Portsmouth, OH 45663	N/A
Lindy Coleman	1077 Dry Run Road West Portsmouth, OH 45663	N/A
Shella Coleman	1077 Dry Run Road West Portsmouth, OH 45663	N/A

<b>Name</b>	<b>Address</b>	<b>County</b>
Collin Colley	341 Moores Lane West Portsmouth, OH 45663	N/A
Robert Colley	341 Moores Lane West Portsmouth, OH 45663	N/A
Vickie Colley	341 Moores Lane West Portsmouth, OH 45663	N/A
Nicole Conkel	1351 Arion Road Mc Dermott, OH 45652	N/A
Roger Conley	2242 Rose Avenue West Portsmouth, OH 45663	N/A
Chris Craft	580 Dunlap Road Portsmouth, OH 45662	N/A
Cyndelia Craft	715 Dunlap Road Portsmouth, OH 45662	N/A
Stanley S. Craft	715 Dunlap Road Portsmouth, OH 45662	N/A
Linda Delong	23020 State Route 73 Portsmouth, OH 45663	N/A
Jeff Dettwiller	19 Zuefle Drive Mc Dermott, OH 45652	N/A
Breanna D. Detty	170 Discovery Drive Chillicothe, OH 45601	N/A
Becky Distel	2227 6 <sup>th</sup> Street Portsmouth, OH 45662	N/A
Paula Dyer	1844 Beekman Avenue West Portsmouth, OH 45663	N/A
Jeff Emmons	2810-A Conley Road Lucasville, OH 45648	N/A
Jonathon Evans	1601 Lester Street West Portsmouth, OH 45663	N/A
Loretta Evans	1250 12 <sup>th</sup> Street West Portsmouth, OH 45663	N/A
Paul Evans	5034 Millers Run Back Run Road Lucasville, OH 45648	N/A
Timothy Evans	1601 Lester Street West Portsmouth, OH 45663	N/A
Floyd Ferrell	4426B Poplar Fork Road Wheelersburg, OH 45694	N/A
David Flagg	P.O. Box 281 Lucasville, OH 45648	N/A
David Flagg	1747 Van Crabtree Road Lucasville, OH 45648	N/A
Marvin Folden	2309 Smith Bridge Road Jackson, OH 45640	N/A
Rick Golden	10462 State Route 104 Lucasville, OH 45648	N/A
Greg Guilkey	188 Turkey Run Road Waverly, OH 45690	N/A
Nick Hadsell	2040 High Street Portsmouth, OH 45662	N/A
Noah Hall	5192 Rocky Fork Road Otway, OH 45657	N/A

<b>Name</b>	<b>Address</b>	<b>County</b>
Daniel Halstead	339 Coleman Road West Portsmouth, OH 45663	N/A
David Halstead	339 Coleman Road West Portsmouth, OH 45663	N/A
Jacob Halstead	339 Coleman Road West Portsmouth, OH 45663	N/A
Brittany Havens	771 Rases Mountain Drive Minford, OH 45653	N/A
Gabe Havens	771 Rases Mountain Drive Minford, OH 45653	N/A
Barb Henderson	1004 Goose Creek Road Wheelersburg, OH 45694	N/A
Carl Henderson	1004 Goose Creek Road Wheelersburg, OH 45694	N/A
John Howard	240 Morgans Fork Road Waverly, OH 45690	N/A
Jeremy Hughes	102 Highland Drive Sciotoville, OH 45662	N/A
Sam Jenkins	10236 State Route 124 Piketon, OH 45661	N/A
Jack B. Jones	1110 24 <sup>th</sup> Street Portsmouth, OH 45662	Scioto
Keri Journey	1332 12 <sup>th</sup> Street West Portsmouth, OH 45663	N/A
Pam Journey	425 Odle Creek Road West Portsmouth, OH 45663	N/A
Scott Journey	425 Odle Creek Road West Portsmouth, OH 45663	N/A
Tanner Journey	425 Odle Creek Road West Portsmouth, OH 45663	N/A
Tara Journey	425 Odle Creek Road West Portsmouth, OH 45663	N/A
Travis Journey	1332 12 <sup>th</sup> Street West Portsmouth, OH 45663	N/A
Tyler Journey	425 Odle Creek Road West Portsmouth, OH 45663	N/A
Bill Lewis, Sr.	118 Custus Street West Portsmouth, OH 45663	N/A
Chad Lewis	130 Dusty Drive Mc Dermott, OH 45652	N/A
Kevin Lewis	130 Dusty Drive Mc Dermott, OH 45652	N/A
Tommy Lore	4933A Poplar Fork Road Wheelersburg, OH 45694	N/A
Robert D. Maynard	459 Franklin Hollow Road Franklin Furnace, OH 45629	N/A
Carol McGraw	1376 4 <sup>th</sup> Street West Portsmouth, OH 45663	N/A
Diane McGraw	2114 Russell Avenue West Portsmouth, OH 45663	N/A
James E. McGraw	2114 Russell Avenue West Portsmouth, OH 45663	N/A

<b>Name</b>	<b>Address</b>	<b>County</b>
Rachael McGraw	1376 4 <sup>th</sup> Street West Portsmouth, OH 45663	N/A
Ryan J. McGraw	1376 4 <sup>th</sup> Street West Portsmouth, OH 45663	N/A
Lawrence Mershon	260 Coburn Drive Mc Dermott, OH 45652	N/A
Valerie Morris	339 Coleman Road West Portsmouth, OH 45663	N/A
Stephen Muncy	3384 State Route 139 Portsmouth, OH 45662	N/A
Fred Nichols	4706 Rocky Fork Road Otway, OH 45657	N/A
Cecil Nickell	312 Valley View Drive Piketon, OH 45661	N/A
James M. Nickell	30 Meadow Run Road Waverly, OH 45690	N/A
Steve Nickell	313 Apel Road Franklin Furnace, OH 45629	N/A
Vicki L. Nickell	313 Apel Road Franklin Furnace, OH 45629	N/A
Vickie Nickell	30 Meadow Run Road Waverly, OH 45690	N/A
Brittany Osborne	82 Gervais Road Franklin Furnace, OH 45629	N/A
Franklin S. Osborne, Jr.	82 Gervais Road Franklin Furnace, OH 45629	
Dorothy Piatt	99 Piatt Road West Portsmouth, OH 45663	N/A
Heath Piatt	108 Piatt Road West Portsmouth, OH 45663	N/A
Mickey J. Prose	11373 State Route 348 Lucasville, OH 45648	N/A
Sonny Puckett	P.O. Box 35 Mc Dermott, OH 45652	N/A
Chris Rachford	216 Mercer Cox Road Lucasville, OH 45648	N/A
Anthony Raines	1324 Holmes Avenue Portsmouth, OH 45662	N/A
Matt Rhodes	1669 Keystone Road Vinton, OH 45686	N/A
Terry Roe	223 Hayport Road Wheelersburg, OH 45694	N/A
Dave Roney	2134 Shyville Road Piketon, OH 45661	N/A
Dwayne Runyon	55 Private Drive 1068 Ironton, OH 45638	N/A
Dennis Sadler	733A Briggs Road Wheelersburg, OH 45694	N/A
Joyce Sadler	733A Briggs Road Wheelersburg, OH 45694	N/A

<b>Name</b>	<b>Address</b>	<b>County</b>
Ricky Shope	174 Fairview Boulevard Circleville, OH 43113	N/A
Andy Sparks	43 Brouse Street West Portsmouth, OH 45663	
Emily Sparks	34 Moores Lane West Portsmouth, OH 45663	N/A
Eric Sparks	34 Moores Lane West Portsmouth, OH 45663	N/A
Jody Sparks	34 Moores Lane West Portsmouth, OH 45663	N/A
Beth Spriggs	948 Orange Street Chillicothe, OH 45601	N/A
John Spriggs	948 Orange Street Chillicothe, OH 45601	N/A
Maddix Spriggs	1351 Arion Road McDermott, OH 45652	N/A
Walter Spriggs	1351 Arion Road McDermott, OH 45652	N/A
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James Welch	651 Careys Run Road West Portsmouth, OH 45663	N/A
Scott Welch	1306 2 <sup>nd</sup> Street West Portsmouth, OH 45663	N/A
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<b>Format #4</b>		
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Gregory Keeney	1811 High Street Portsmouth, OH 45662	Scioto
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**APPENDIX A: APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS  
AND TO-BE-CONSIDERED GUIDANCE FOR THE PROCESS BUILDINGS  
AND COMPLEX FACILITIES D&D EVALUATION PROJECT**

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## ACRONYMS

ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	<i>Code of Federal Regulations</i>
D&D	decontamination and decommissioning
DFE&O	<i>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</i>
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NHPA	National Historic Preservation Act of 1966
Ohio EPA	Ohio Environmental Protection Agency
PORTS	Portsmouth Gaseous Diffusion Plant
ROD	Record of Decision
T&E	threatened and endangered
TBC	to-be-considered

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## A.1 INTRODUCTION

In accordance with the requirements 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* (DFF&O) (Ohio Environmental Protection Agency [Ohio EPA] 2012) (and pursuant to Ohio's laws and regulations and utilizing 40 *Code of Federal Regulations* [CFR] 300.430(f)(1)(ii)(B) of the National Oil and Hazardous Substances Pollution Contingency Plan [NCP] and Comprehensive Environmental Response, Compensation, and Liability Act of 1980 [CERCLA] as a framework) on-site remedial actions are required to attain applicable or relevant and appropriate requirements (ARARs), unless waived in accordance with the DFF&O. The ARARs include only federal and state environmental or facility siting laws/regulations; they do not include occupational safety or worker radiation protection requirements. Additionally, per the DFF&O and 40 CFR 300.400(g)(3), other advisories, criteria, or guidance may be considered in determining remedies (to-be-considered [TBC]).

As defined in Paragraph 5.e of the DFF&O, decontamination and decommissioning (D&D) activities include deactivation of equipment; removal and cleaning of process residues and deposits from equipment structures and piping; recovery of recyclable or reusable equipment or materials; dismantlement, demolition, and removal of equipment, structures, piping, building contents, concrete foundations, and residual soil that adheres to the foregoing or otherwise must be excavated as part of D&D activities; and treatment, disposition, and disposal, off-Site or in a secure on-Site disposal cell for the above-listed materials, wastes, and residual soil waste materials generated during the remedial action. The selected remedial action alternative is Alternative 2, remove structures, treat as necessary, and package waste for disposition. The requirements in Paragraph 12.a of the DFF&O will apply to this Record of Decision (ROD). The selected remedial action alternative will comply with all identified ARARs/TBCs.

Paragraph 9.a of the DFF&O provides that portions of response actions conducted entirely on-site pursuant to work plans or plans concurred with or approved by the Ohio EPA under the order can be conducted pursuant to Section 121(e)(1) of CERCLA, 42 *United States Code* Section 9621. Section 121(e)(1) specifically provides that no federal, state, or local permit shall be required for the portion of any removal or remedial action conducted entirely as an on-site response action. In addition to "permits," the U.S. Environmental Protection Agency (EPA) has interpreted this section broadly to cover "all administrative provisions from other laws, such as recordkeeping, consultation, and reporting requirements. In other words, administrative requirements do not apply to on-site response actions" (EPA 1998) (Office of Solid Waste and Emergency Response 9205.5-10A). Those portions of the remedial action that are taken off site are subject to both the substantive and administrative requirements of applicable laws. Only the substantive requirements of the ARARs and TBCs in the tables in this appendix shall be binding for entirely on-site actions.

ARARs are typically divided into three groups: (1) chemical-specific, (2) location-specific, and (3) action-specific. Tables A.1 and A.2 segregate the location- and action-specific ARARs/TBCs for the D&D project remedial action. No chemical-specific ARARs were identified. In some cases, the conditions associated with the prerequisite requirements have not been confirmed to be present. If the subject condition is encountered during implementation of the action, then the specified ARAR will apply. A brief description of key ARAR/TBC topics follows.

## **A.2 CHEMICAL-SPECIFIC ARARS/TBCS**

Chemical-specific ARARs provide health- or risk-based concentration limits or discharge limitations in various environmental media (i.e., surface water, groundwater, soil, and air) for specific hazardous substances, pollutants, or contaminants. The scope of this action is D&D of facilities and does not include remediation of environmental media; therefore, no chemical-specific ARARs are triggered.

## **A.3 LOCATION-SPECIFIC ARARS/TBCS**

Requirements that establish restrictions on permissible concentrations of hazardous substances or that establish requirements for how activities will be conducted because they are in special locations have been identified for the Portsmouth Gaseous Diffusion Plan (PORTS) wetlands, streams, and cultural resources.

### **A.3.1 FLOODPLAINS AND WETLANDS**

None of the activities associated with the remedial action alternative will be conducted within a floodplain. Thus, no impacts to floodplains will result from the alternatives considered for this selected remedial action and no ARARs are identified.

Seven wetland areas that could potentially be affected during D&D have been identified. These areas include Q1-06 (0.23 acre), Q2-12 (2.028 acres), Q3-30 (0.48 acre), Q3-46 (0.08 acre), Q4-18 (0.322 acre), Q4-22 (0.018 acre), and Q4-26 (0.16 acre). Total acreage of the potentially affected wetlands is 3.318 acres. These resources will be protected in accordance with the location-specific ARARs and TBCs identified in Table A.1, as appropriate. Activities will be designed to avoid or minimize impacts to wetlands. In the event wetlands will be impacted, mitigation activities will be incorporated into the remedial design for the locations where such impacts will occur. Impacted wetlands will be restored, enhanced, or preserved elsewhere on PORTS at a ratio of 1.5 to 1 for nonforested impacted wetlands and a ratio of 2 to 1 for forested impacted wetlands.

### **A.3.2 THREATENED AND ENDANGERED SPECIES**

None of the D&D project remedial actions will adversely impact federal- or state-listed threatened or endangered (T&E) species because none are present in the project area. Consequently, none of the requirements for protection of T&E species or critical habitat are included as ARARs.

### **A.3.3 CULTURAL RESOURCES**

Cultural resources include prehistoric or historic district, site, building, structure, or object resulting from, or modified by, human activity. Under federal regulations (36 *CFR* 800), federal agencies must assess the impacts their actions have on historic properties and, if appropriate, avoid or mitigate adverse effects. Historic properties are cultural resources listed in, or eligible for listing in, the National Register of Historic Places because of their significance and integrity.

The National Historic Preservation Act of 1966 (NHPA), Section 106, requires that a proposed activity be assessed for impacts to historic properties. The U.S. Department of Energy (DOE) has plans to implement and, in certain instances, is already implementing a variety of activities to execute the NHPA ARARs (Table A.1). Because the scope of the Environmental Management Program at PORTS is comprehensive and will affect both aboveground and below-ground activities, DOE proposes a comprehensive approach to take into account the potential effects that the actions may have on historic properties. The selected DOE approach and mitigation measures for the activities (affecting the DOE-built environment) are described in detail in Section 13.2.2 of this ROD.

## **A.4 ACTION-SPECIFIC ARARS/TBCS**

Action-specific ARARs include operation, performance, and design requirements or limitations based on the waste types, media, and removal/remedial activities. ARARs for Alternative 2, the selected alternative, include requirements related to waste characterization; scrap metal removal; decontamination; waste storage and treatment; and preparation for transportation and disposal of hazardous materials (Table A.2).

If during implementation of the selected remedy, DOE identifies new methods for treatment not contemplated in the ROD and additional ARARs are identified, DOE shall notify Ohio EPA and amend the ARAR list. It will also be necessary to evaluate the impact of these changes and document them appropriately (e.g., note to file, amend the ROD, etc.).

### **A.4.1 BUILDING REMOVAL**

The D&D project action alternative includes the removal of scrap metal, equipment, infrastructure, structural materials, man-made subsurface features, waste materials, and (where necessary) site restoration, etc. Under the Clean Air Act of 1970, as amended, requirements for control of asbestos and/or radionuclide emissions (Table A.2) will have to be met. In addition, requirements for the closure of tanks containing hazardous materials will have to be met.

### **A.4.2 WASTE MANAGEMENT**

Building removal activities may result in the creation of Resource Conservation and Recovery Act of 1976, as amended, solid or hazardous waste, low-level radioactive waste, and asbestos-containing waste materials.

Although some characterization has been performed, additional waste streams may be identified during implementation of the remedial action.

All primary wastes (e.g., D&D waste) and secondary wastes (e.g., contaminated personal protective equipment, decontamination wastes) generated during building remediation activities must be appropriately characterized and managed in accordance with ARARs, which include State of Ohio laws and regulations for hazardous and solid waste, DOE Order<sup>2</sup> requirements, and federal requirements as specified in the tables. Hazardous waste determinations will be made on the basis of available process knowledge, materials of construction calculations, and sampling/analysis results, as required. If no listed hazardous wastes are present and the sample does not exhibit a hazardous characteristic, the waste will be categorized as non-hazardous.

Requirements associated with the characterization, storage, and treatment of the aforementioned waste types are listed in Table A.2. Hazardous, Toxic Substances Control Act of 1976, and non-hazardous waste may be accumulated and stored in appropriate short-term storage areas at PORTS. Long-term storage of waste is not anticipated. Generated waste or materials will be transported and disposed or recycled as described in the Waste Disposition Project decision.

### **A.4.3 TRANSPORTATION**

As noted in Paragraph 9.a of the DFF&O, the NCP at 40 *CFR* 300.400(e)(1) defines “on-site” as meaning “the areal extent of contamination and all suitable areas in very close proximity to the contamination necessary for the implementation of the response action.” Off-site disposal, by definition, is not an

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<sup>2</sup> DOE Orders are internal regulations that are legally binding to DOE contractors but are not considered by EPA to be ARARs because they have not been formally promulgated through a rulemaking process. DOE Orders, however, are functionally equivalent to many of the corresponding federal and state regulations.

on-site response action and is subject to all substantive, procedural, and administrative requirements of all applicable laws and regulations, but not ARARs.

Wastes transferred off Site or transported in commerce along public rights-of-way must be prepared in such a way to meet the requirements summarized on Table A.2, depending on the type of waste (e.g., hazardous, low-level, mixed, or solid waste). These requirements include packaging, labeling, marking, manifesting, and placarding for hazardous materials in accordance with 49 *CFR* 170-180 *et seq.*

## A.5 REFERENCES

EPA 1998, *RCRA, Superfund & EPCRA Hotline Training Module, Introduction to Applicable or Relevant and Appropriate Requirements*, EPA-540-R-98-020, U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response 9205.5-10A, Washington, D.C., June.

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.

**Table A.1. Location-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio**

Location	Requirements <sup>a</sup>	Prerequisite	Citation
Presence of wetlands as defined in 10 <i>CFR</i> 1022.4	<p style="text-align: center;"><i>Wetlands</i></p> Avoid, to the extent possible, the long- and short-term adverse effects associated with destruction, occupancy, and modification of wetlands.	DOE actions that involve potential impacts to, or take place within, wetlands— <b>applicable</b>	10 <i>CFR</i> 1022.3(c)
			10 <i>CFR</i> 1022.3(a)(7) and (8)
			10 <i>CFR</i> 1022.3(b) and (d)
			10 <i>CFR</i> 1022.13(a)(3)
			10 <i>CFR</i> 1022.14(a)
Presence of jurisdictional wetlands	Except as provided under the CWA Sect. 404(b)(2), no discharge of dredged or fill material into an aquatic ecosystem is permitted if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem or if it will cause or contribute to significant degradation of the waters of the United States.	Actions that involve the discharge of dredged or fill material into waters of the United States, including jurisdictional wetlands— <b>applicable</b>	40 <i>CFR</i> 230.10(a) and (c)

<sup>a</sup>The requirements portion of the ARARs table is intended to provide a summary of the cited ARAR. The omission of any particular requirement does not limit the scope of the cited ARARs.

**Table A.1. Location-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Location</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Presence of jurisdictional wetlands (continued)	Except as provided under the CWA Sect. 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps in accordance with 40 <i>CFR</i> 230.70 <i>et seq.</i> are taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.		40 <i>CFR</i> 230.10(d)
Presence of wetlands as defined under <i>OAC</i> 3745-1-02(B)(90)	Wetlands designated uses, as assigned in accordance with <i>OAC</i> 3745-1-54(B)(2), shall be maintained and protected such that degradation of surface waters through direct, indirect, or cumulative impacts does not result in the net loss of wetland acreage or functions in accordance with the substantive wetland avoidance, minimization, and compensatory mitigation requirements of the paragraphs (D) and (E) of <i>OAC</i> 3745-1-54.	Activity that would cause loss of wetlands as defined under <i>OAC</i> 3745-1-02(B)(90)— <b>applicable</b>	<i>OAC</i> 3745-1-54(B)(1) <i>OAC</i> 3745-1-51 through -54
Presence of “isolated” wetlands as defined under <i>RC</i> 6111.02	No person shall engage in the filling of an isolated wetland unless authorized to do so pursuant to the substantive requirements of a general or individual state isolated wetland permit.  Must comply with the following substantive requirements and conditions of this permit: <ul style="list-style-type: none"> <li>• Only suitable material free of toxic contaminants in other than trace quantities shall be used as fill material.</li> <li>• Use of asphalt and rubber tires as fill is prohibited.</li> <li>• Wetland narrative and chemical criteria in <i>OAC</i> 3745-1-51 and 3745-1-52 shall be maintained in isolated wetlands wholly or partially avoided.</li> <li>• Visible signage, as detailed in the general permit, shall be placed around the delineated boundary of the avoided wetlands.</li> </ul>	Actions that involve the discharge of dredged or fill material into “isolated wetlands”— <b>applicable</b>  Category 1 or 2 “isolated wetlands” of a total of ½ acre or less— <b>TBC</b> Category 1 or 2 “isolated wetlands” of a total of ½ acre or less— <b>TBC</b>	<i>RC</i> 6111.021 – 6111.028  Ohio General Permit for Filling Category 1 and Category 2 Isolated Wetlands (effective April 10, 2007)

**Table A.1. Location-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Location</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Presence of “isolated” wetlands as defined under RC 6111.02 (continued)	Mitigation is required either on or off site, or at a mitigation bank within the same USACE district as the project location. Mitigation must be conducted in accordance with the ratios established in the general permit depending on the wetland category designation. The mitigation site shall be protected in perpetuity, and appropriate practicable management measures including vegetative buffers shall be implemented to restrict harmful activities that jeopardize the mitigation.	Actions that involve the discharge of dredged or fill material into Category 1 or 2 “isolated wetlands” of a total of ½ acre or less— <b>TBC</b>	Ohio General Permit for Filling Category 1 and Category 2 Isolated Wetlands (effective April 10, 2007)
<i><b>Aquatic resources</b></i>			
Location encompassing aquatic ecosystem as defined in 40 <i>CFR</i> 230.3(c)	Except as provided under Sect. 404(b)(2), no discharge of dredged or fill material into an aquatic ecosystem is permitted if there is a practicable alternative that would have less adverse impact on the aquatic ecosystem or if it will cause or contribute to significant degradation of the waters of the U.S.  Except as provided under Sect. 404(b)(2), no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps in accordance with the substantive provisions of 40 <i>CFR</i> 230.70 <i>et seq.</i> are taken that will minimize potential adverse impacts of the discharge on the aquatic ecosystem.	Action that involves discharge of dredged or fill material into waters of the United States— <b>applicable</b>	40 <i>CFR</i> 230.10(a) and (c) <i>OAC</i> 3745-32-05  40 <i>CFR</i> 230.10(d) <i>OAC</i> 3745-32-05
<i><b>Cultural Resources</b></i>			
Presence of archaeological resources	Must provide for the preservation of significant historical and archeological data which might otherwise be irreparably lost or destroyed as a result of any alteration of terrain caused as a result of any Federal construction project.	Federal agency construction or excavation projects that would cause the irreparable loss or destruction of significant historic or archeological resources or data— <b>applicable</b>	16 USC 469
Presence of human remains, funerary objects, sacred objects, or objects of cultural patrimony for Native Americans	Must stop activities in the area of the discovery and take reasonable effort to secure and protect the objects discovered before resuming activity.	Federal agency construction or excavation activities that inadvertently discover Native American cultural items on Federal lands or lands under Federal control— <b>applicable</b>	25 USC 3002(d) 43 <i>CFR</i> 10.4(c) and (d)(2)

**Table A.1. Location-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Location</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Presence of historic properties	Federal agencies must take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion on the National Register.	Federal agency undertaking that may impact historic properties listed or eligible for inclusion on the National Register of Historic Places— <b>applicable</b>	16 USC 470f 36 CFR 800.1(a)
	Federal agencies must initiate measures to assure that where, as a result of Federal action, a historic property is to be substantially altered or demolished, timely steps are taken to make or have made appropriate records.	Substantial alteration or demolition of a historic property— <b>applicable</b>	16 USC 470h-2(b)

ARAR = applicable or relevant and appropriate requirement  
 CFR = Code of Federal Regulations  
 CWA = Clean Water Act  
 DOE = U.S. Department of Energy  
 OAC = Ohio Administrative Code

RC = Ohio Revised Code  
 TBC = to-be-considered  
 USACE = U.S. Army Corps of Engineers  
 USC = United States Code



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
<i>Site Preparation, Construction, and Excavation Activities</i>			
Activities causing release of air pollutants	Shall not cause the emission or escape into the open air from any source or sources whatsoever of smoke, ashes, dust, dirt, grime, acids, fumes, gases, vapors, odors, or any other substances or combinations of substances in such manner or in such amounts as to endanger the health, safety, or welfare of the public, or cause unreasonable injury or damage to property.	Activities causing the release of air pollution nuisances as defined in <i>OAC 3745-15-07(A)</i> — <b>applicable</b>	<i>OAC 3745-15-07</i>
	The operation of a hazardous waste facility shall not cause, permit, or allow the emission there from of any particulate matter, dust, fumes, gas, mist, smoke, vapor, or odorous substance that unreasonably interferes with the comfortable enjoyment of life or property by persons living or working in the vicinity of the facility or that is injurious to public health.	Site where hazardous waste will be managed such that air emissions may occur— <b>applicable</b>	<i>RC 3734.02(I)</i>
Activities causing fugitive dust (particulate) emissions	Shall take reasonable achievable control measures to prevent particulate matter from becoming airborne. Reasonable achievable control measures shall include, but are not limited to, the following:	Fugitive emissions from transportation, land-disturbing, or building alteration activities located in areas identified in Appendix A to <i>OAC 3745-17-08</i> , except as exempted under <i>OAC 3745-17-08(A)(3)</i> — <b>relevant and appropriate</b>	<i>OAC 3745-17-08(B)</i>
	<ul style="list-style-type: none"> <li>• Use, where possible, of water or chemicals for control of dust and in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;</li> </ul>		<i>OAC 3745-17-08(B)(1)</i>
	<ul style="list-style-type: none"> <li>• Periodic application of asphalt, oil (excluding used oil), water, or other suitable chemicals on dirt or gravel roads and parking lots, materials stock piles, and other surfaces that can create airborne dusts, or the use of canvas or other suitable coverings for all materials stockpiles and stockpiling operations except temporary stockpiles;</li> </ul>		<i>OAC 3745-17-08(B)(2) and (6)</i>
<ul style="list-style-type: none"> <li>• Install and use hoods, fans, and other equipment to adequately enclose, contain, capture, vent, and control the fugitive dust at the point(s) of capture to the extent possible with good engineering design. Equipment must meet the efficiency requirements of <i>OAC 3745-17-08(B)(3)(a)</i> and (b);</li> </ul>	<i>OAC 3745-17-08(B)(3)</i>		

<sup>a</sup>The requirements portion of the ARARs table is intended to provide a summary of the cited ARAR. The omission of any particular requirement does not limit the scope of the cited ARARs.

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Activities causing fugitive dust (particulate) emissions (continued)	<ul style="list-style-type: none"> <li>• Use of adequate containment methods during sandblasting or similar operations;</li> <li>• Cover, at all times, open-bodied vehicles when transporting materials likely to become airborne;</li> <li>• Pave and maintain roadways in a clean condition; and</li> <li>• Promptly remove, in such a manner as to minimize or prevent resuspension, earth or other material from paved streets onto which this material has been deposited by trucking or earth moving equipment or erosion by water or other means.</li> </ul>		<p>OAC 3745-17-08(B)(5)</p> <p>OAC 3745-17-08(B)(7)</p> <p>OAC 3745-17-08(B)(8)</p> <p>OAC 3745-17-08(B)(9)</p>
Airborne radionuclide emissions	Emissions of radionuclides to the ambient air from DOE facilities shall not exceed those amounts that would cause any member of the public to receive an EDE of 10 mrem per year.	Radionuclide air emissions to the ambient air from DOE facilities— <b>applicable</b>	40 <i>CFR</i> 61.92
Radiation protection of the public and the environment	<p>Except as provided in 458.1(4)(b)(1)(c), exposure to individual members of the public from radiation shall not exceed a total EDE of 0.1 rem/year (100 mrem/year), exclusive of the dose contributions from background radiation, any medical administration the individual has received, or voluntary participation in medical/research programs.</p> <p>Shall use, to the extent practicable, procedures and engineering controls based on sound radiation protection principles to achieve doses to members of the public that are ALARA.</p>	Radionuclide emissions from all exposure modes from all DOE activities (including remedial actions) at a DOE facility— <b>TBC</b>	<p>DOE Order 458.1(4)(b) and (c)</p> <p>DOE Order 458.1(4)(d)</p>
Activities causing storm water runoff (e.g., demolition)	Dischargers must utilize best management practices to control pollutants in storm water discharges during and after construction, which may include, as appropriate, soil stabilization practices (e.g., seeding), perimeter structural practices (e.g., gabions, silt fences, sediment traps), and storm water management devices as detailed in Part III.G.2 (“Controls”) of NPDES OHC000003.	Storm water runoff discharges from land disturbed by construction activity—disturbance of ≥ 1 acre total, except where otherwise exempt as specified in 40 <i>CFR</i> 122.26(b)(15)— <b>applicable</b>	Authorization for Storm Water Discharges Associated with Construction Activity under NPDES OHC000003, Part III.G.2
<b>Waste Generation, Characterization, and Segregation</b>			
Characterization of solid waste	Must determine if solid waste is hazardous or is excluded under 40 <i>CFR</i> 261.4 [OAC 3745 51-04]; and	Generation of solid waste as defined in 40 <i>CFR</i> 261.2— <b>applicable</b>	40 <i>CFR</i> 262.11(a) OAC 3745-52-11(A)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Characterization of solid waste (continued)	Must determine if waste is listed as a hazardous waste in 40 <i>CFR</i> Part 261 [ <i>OAC</i> 3745-51-30 to 3745-51-35]; or	Generation of solid waste that is not excluded under 40 <i>CFR</i> 261.4— <b>applicable</b>	40 <i>CFR</i> 262.11(b) <i>OAC</i> 3745-52-11(B)
	Must determine whether the waste is identified in subpart C of 40 <i>CFR</i> 261 [ <i>OAC</i> 3745-51-20 to 3745-51-24], characterizing the waste by using prescribed testing methods or applying generator knowledge based on information regarding material or processes used.	Generation of solid waste that is not listed in subpart D of 40 <i>CFR</i> 261 and not excluded under 40 <i>CFR</i> 261.4— <b>applicable</b>	40 <i>CFR</i> 262.11(c) <i>OAC</i> 3745-52-11(C)
	Must refer to Parts 261, 262, 264, 265, 266, 268, and 273 of Chapter 40 [ <i>OAC</i> 3745-51, 3745-54 to 3745-57, 3745-65 to 3745-69, 3745-205, 3745-256, 3745-266, 3745-270, and 3745-273] for possible exclusions or restrictions pertaining to management of the specific waste.	Generation of solid waste that is determined to be hazardous— <b>applicable</b>	40 <i>CFR</i> 262.11(d) <i>OAC</i> 3745-52-11(D)
Characterization of hazardous waste	Must obtain a detailed chemical and physical analysis of a representative sample of the waste(s) that, at a minimum, contains all the information that must be known to treat, store, or dispose of the waste in accordance with 40 <i>CFR</i> 264 and 268 [ <i>OAC</i> 3745-54 to 3745-57, 3745-205, and 3745-270].	Generation of RCRA hazardous waste for storage, treatment, or disposal— <b>applicable</b>	40 <i>CFR</i> 264.13(a)(1) and (2) <i>OAC</i> 3745-54-13(A) (1) and (2)
Determinations for land disposal of hazardous waste	Must determine if the waste meets the treatment standards in 40 <i>CFR</i> 268.40, 268.45, or 268.49 [ <i>OAC</i> 3745-270-40, 3745-270-45, and 3745-270-49] by testing in accordance with prescribed methods or use of generator knowledge of waste.	Generation of RCRA hazardous waste for storage, treatment, or disposal— <b>applicable</b>	40 <i>CFR</i> 268.7(a) <i>OAC</i> 3745-270-07(A)
	Must determine each EPA Hazardous Waste Number (Waste Code) to determine the applicable treatment standards under 40 <i>CFR</i> 268.40 et seq. [ <i>OAC</i> 3745-270-40 et seq.].	Generation of RCRA hazardous waste for storage, treatment, or disposal— <b>applicable</b>	40 <i>CFR</i> 268.9(a) <i>OAC</i> 3745-270-09(A)
	Must determine the underlying hazardous constituents [as defined in 40 <i>CFR</i> 268.2(i) and <i>OAC</i> 3745-270-02] in the waste.	Generation of RCRA characteristically hazardous waste (and is not D001 non-wastewaters treated by CMBST, RORGS, or POLYM of Section 268.42, Table 1) for storage, treatment, or disposal— <b>applicable</b>	40 <i>CFR</i> 268.9(a) <i>OAC</i> 3745-270-09(A)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Characterization and management of wastewater (e.g., decon water)	Must determine whether the waste meets other applicable treatment standards under 40 <i>CFR</i> 268.9 [ <i>OAC</i> 3745-270-09] for characteristic wastes.	Generation of RCRA characteristically hazardous waste— <b>applicable</b>	40 <i>CFR</i> 268.9(b) to (d) <i>OAC</i> 3745-270-09(B) to (C)
	On-site wastewater treatment units (including tank systems, conveyance systems, and ancillary equipment used to treat, store or convey wastewater to the wastewater treatment facility) are exempt from the requirements of RCRA Subtitle C standards.	On-site wastewater treatment units subject to regulation under Section 402 or Section 307(b) of the CWA— <b>applicable</b>	40 <i>CFR</i> 264.1(g)(6) <i>OAC</i> 3745-54-01(G)(6)
Characterization and management of industrial wastewater	Industrial wastewater discharges that are point source discharges under Section 402 of the CWA, as amended, are not solid wastes for purpose of hazardous waste management.	Generation of industrial wastewater for discharge— <b>applicable</b>	40 <i>CFR</i> 261.4(a)(2) <i>OAC</i> 3745-51-04(A)(2)
Characterization of LLW	Shall be characterized using direct or indirect methods and the characterization documented in sufficient detail to ensure safe management and compliance with the WAC of the receiving facility.	Generation of LLW for storage or disposal at a DOE facility— <b>TBC</b>	DOE M 435.1-1(IV)(I)
	Characterization data shall, at a minimum, include the following information relevant to the management of the waste:		DOE M 435.1-1(IV)(I)(2)
	• Physical and chemical characteristics;		DOE M 435.1-1(IV)(I)(2)(a)
	• Volume, including the waste and any stabilization or absorbent media;		DOE M 435.1-1(IV)(I)(2)(b)
	• Weight of the container and contents;		DOE M 435.1-1(IV)(I)(2)(c)
	• Identities, activities, and concentrations of major radionuclides;		DOE M 435.1-1(IV)(I)(2)(d)
	• Characterization date;		DOE M 435.1-1(IV)(I)(2)(e)
	• Generating source; and		DOE M 435.1-1(IV)(I)(2)(f)
• Any other information that may be needed to prepare and maintain the disposal facility performance assessment, or demonstrate compliance with performance objectives.		DOE M 435.1-1(IV)(I)(2)(g)	

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Packaging of solid LLW for storage (e.g., radioactively contaminated debris)	Shall be packaged in a manner that provides containment and protection for the duration of the anticipated storage period and until disposal is achieved or until the waste has been removed from the container.  Vents or other measures shall be provided if the potential exists for pressurizing or generating flammable or explosive concentrations of gases within the waste container. Containers shall be marked such that their contents can be identified.	Storage of LLW in containers at a DOE facility— <b>TBC</b>	DOE M 435.1-1(IV)(L)(1)(a)  DOE M 435.1-1(IV)(L)(1)(b) and (c)
Segregation of scrap metal for recycle	Material is not subject to RCRA requirements for generators, transporters, and storage facilities under 40 <i>CFR</i> Parts 262 through 266, 268, 270, or 124 [ <i>OAC</i> 3745-50-40 to 3745-50-235 or 3745-52, 3745-53, 3745-54 to 3745-57, 3845-65 to 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270].	Scrap metal, as defined in 40 <i>CFR</i> 261.1(c)(6) intended for recycle— <b>applicable</b>	40 <i>CFR</i> 261.6(a)(3)(ii) <i>OAC</i> 3745-51-06(A)(3)(b)
Management of recyclable materials for precious metal recovery	Recyclable materials being collected, transported or stored that are being reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these must be managed in accordance with the substantive requirements of <i>OAC</i> 3745-266-70.	Management of recyclable materials for precious metal recovery— <b>applicable</b>	<i>OAC</i> 3745-266-70
Management of spent lead acid batteries being reclaimed	Spent lead acid batteries being collected, transported and stored prior to regeneration must be managed in accordance with particular hazardous waste requirements depending on permit status and whether they are being reclaimed through regeneration or in other ways. Management options are detailed in 40 <i>CFR</i> 266.80 [ <i>OAC</i> 3745-266-80]. Spent lead acid batteries can also be managed as universal wastes under 40 <i>CFR</i> 273 [ <i>OAC</i> 3745-273].	Management of spent lead acid batteries being reclaimed— <b>applicable</b>	40 <i>CFR</i> 266.80 <i>OAC</i> 3745-266-80
Decontamination of radioactively contaminated equipment and building structures	Property potentially containing residual radioactive material must not be released or cleared from DOE control unless it is either demonstrated not to contain residual radioactive material based on process and historical knowledge, radiological monitoring or surveys, or a combination of these; or the property is evaluated and appropriately monitored or surveyed in accordance with DOE Order 458.1(4)(k)(3)(b).	Residual radioactive material on equipment and building structures intended for unrestricted use— <b>TBC</b>	DOE Order 458.1(4)(k)(3)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Release of radiological materials or scrap metal for reuse	<p>Before being released, property shall be monitored or surveyed to determine the types and quantities of residual radioactive material within the property; the quantities of removable and total residual radioactive material on property surfaces (including residual radioactive material on or under any coating); and that contamination within or on the property is in compliance with applicable DOE Authorized Limits of DOE Order 458.1(4)(k)(6).</p> <p>Where potentially contaminated surfaces are difficult to access for measurement (as in some pipes, drains, and ductwork), such property may be released after case-by-case evaluation and documentation based on both the history of its use and available measurements sufficient to demonstrate that the unsurveyable surfaces are likely to meet DOE Authorized Limits.</p>	<p>Radionuclide-contaminated materials and equipment intended for recycle or reuse—<b>TBC</b></p>	<p>DOE Order 458.1(4)(k)(3)(b)(1)–(2) and (4)</p>
Torch cutting of metal coated with paint that may contain PCBs	<p>No person may openly burn PCBs. Combustion of PCBs by incineration as approved under Section 761.60 (a) or (e), or otherwise allowed under Part 761, is not open burning.</p>	<p>Management of PCB waste for storage or disposal—<b>applicable</b></p>	<p>40 <i>CFR</i> 761.50(a)(1)</p>
Management of PCB items	<p>Any person removing from use a PCB Item containing an intact and non-leaking PCB article must dispose of it in accordance with Section 761.60(b), or decontaminate it in accordance with Section 761.79. PCB Items where the PCB Articles are no longer intact and non-leaking are regulated for disposal as PCB bulk product waste under Section 761.62(a) or (c).</p>	<p>Management of PCB waste for storage or disposal—<b>applicable</b></p>	<p>40 <i>CFR</i> 761.50(b)(2)</p>
Demolition of a facility containing RACM	<p>Remove all RACM from the facility before demolition and follow the procedures for asbestos emission control and RACM handling as appropriate and detailed in 40 <i>CFR</i> 61.145(c)(1) through (7) [<i>OAC</i> 3745-20-04(A)(1) through (7)].</p> <ul style="list-style-type: none"> <li>• RACM need not be removed before demolition if:</li> <li>• It is Category I nonfriable ACM that is not in poor condition and is not friable;</li> <li>• It is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition;</li> </ul>	<p>Demolition of a facility that contains RACM exceeding the volume requirements of 40 <i>CFR</i> 61.145(a)(1) [<i>OAC</i> 3745-20-02(B)]—<b>applicable</b></p>	<p>40 <i>CFR</i> 61.145(a)(1) <i>OAC</i> 3745-20-04(A)(1)</p> <p>40 <i>CFR</i> 61.145(c)(1)(i) <i>OAC</i> 3745-20-04(A)(1)(a)</p> <p>40 <i>CFR</i> 61.145(c)(1)(ii) <i>OAC</i> 3745-20-04(A)(1)(b)</p>

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**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Demolition of a facility containing RACM (continued)	<ul style="list-style-type: none"> <li>It is not accessible for testing and was, therefore, not discovered until after demolition began and, as a result of the demolition, the material cannot be safely removed (exposed RACM and asbestos-contaminated debris must be adequately wet at all times); or</li> </ul>		40 <i>CFR</i> 61.145(c)(1)(iii) <i>OAC</i> 3745-20-04(A)(1)(c)
	<ul style="list-style-type: none"> <li>It is Category II nonfriable ACM and the probability is low that the materials will become crumbled, pulverized, or reduced to powder during demolition.</li> </ul>		40 <i>CFR</i> 61.145(c)(1)(iv) <i>OAC</i> 3745-20-04(A)(1)(d)
Management of ACM prior to disposal	Discharge no visible emissions to the outside air or use one of the emission control and waste treatment methods specified in paragraphs (a)(1) through (a)(4) of 40 <i>CFR</i> 61.150 [paragraphs (B)(1) through (B)(4) of <i>OAC</i> 3745-20-05].	Generation, collection, processing, packaging, and transportation of any asbestos-containing waste material that is not Category I or II nonfriable ACM waste that did not become crumbled, pulverized, or reduced to powder [40 <i>CFR</i> 61.150(a)(5)]— <b>applicable</b>	40 <i>CFR</i> 61.150(a) <i>OAC</i> 3745-20-05(B)
	For facilities demolished where the RACM is not removed prior to demolition according to §§61.145(c)(i) – (iv) [ <i>OAC</i> 3745-20-04(A)(1) or (D)], adequately wet ACM at all times after demolition and keep wet during handling and loading for transport. Such ACM does not have to be sealed in leak-tight containers or wrapping but may be transported and disposed of in bulk in leak-tight transport vehicles that are securely covered or enclosed and cause no visible emissions.		40 <i>CFR</i> 61.150(a)(3) <i>OAC</i> 3745-20-05(B)(2)
	As applied to demolition and renovation, the requirements of 40 <i>CFR</i> 61.150(a) [ <i>OAC</i> 3745-20-05(B) and (C)] do not apply to Category I or II nonfriable ACM that has not been crumbled, pulverized, or reduced to powder.		40 <i>CFR</i> 61.150(a)(5) <i>OAC</i> 3745-20-05(B)(5)
	All asbestos-containing waste material shall be deposited as soon as practicable at a waste disposal site operated in accordance with the provisions of 40 <i>CFR</i> 61.154 [ <i>OAC</i> 3745-20-06] or an EPA-approved site that converts RACM and asbestos-containing waste materials into nonasbestos (asbestos-free) materials according to the provisions of 40 <i>CFR</i> 61.155 [ <i>OAC</i> 3745-20-13].		40 <i>CFR</i> 61.150(b)(1) - (2) <i>OAC</i> 3745-20-05(A)
	The requirements of 40 <i>CFR</i> 61.150(b)(1) and (2) do not apply to Category I nonfriable ACM that is not RACM.		40 <i>CFR</i> 61.150(b)(3)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Characterization and management of universal waste	A large quantity handler of universal waste is prohibited from disposing, diluting, or treating universal waste except in accordance with 40 <i>CFR</i> 273 [OAC 3745-273-33 or 3745-273-37].	Generation of universal waste [as defined in 40 <i>CFR</i> 273 and OAC 3745-273] for disposal— <b>applicable</b>	40 <i>CFR</i> 273.31 OAC 3745-273-31
	A large quantity handler of universal waste must manage universal waste in accordance with 40 <i>CFR</i> 273 [OAC 3745-273-33] in a way that prevents releases of any universal waste or component of a universal waste to the environment.		40 <i>CFR</i> 273.33 OAC 3745-273-33(A)
	Must label or mark the universal waste to identify the type of universal waste.		40 <i>CFR</i> 273.34 OAC 3745-273-34
	May accumulate waste for no longer than one year from the date the waste is generated or received from another handler unless the requirements of 40 <i>CFR</i> 273.35(b) [OAC 3745-273-35 (B)] are met.		40 <i>CFR</i> 273.35(a) OAC 3745-273-35(A)
	May accumulate universal waste for longer than one year from the date the universal waste is generated or received from another handler if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity was solely for this purpose.		40 <i>CFR</i> 273.35(b) OAC 3745-273-35(B)
	Shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures relative to their responsibilities during normal facility operations and emergencies.		40 <i>CFR</i> 273.36 OAC 3745-273-36
	A large quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes, and must determine whether any material resulting from the release is hazardous waste, and if so, must manage the hazardous waste in compliance with all applicable requirements.		40 <i>CFR</i> 273.37 OAC 3745-273.37



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Characterization and management of universal waste (continued)	Must keep a record of each shipment of universal waste received and sent from the facility and retain record for at least 3 years. Record must include waste handler, shipper, or destination facility name and address, quantity and type of waste, and date shipment left or was received at facility.		40 <i>CFR</i> 273.39 <i>OAC</i> 3745-273.39
Management of universal waste lamps (fluorescent, mercury vapor)	A large quantity handler of universal waste must contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps.  Such containers and packages must remain closed and must lack evidence of leakage, spillage, or damage that could cause leakage of hazardous constituents under reasonably foreseeable conditions.  A large quantity handler of universal waste lamps must immediately clean up and place in a container any lamp that is broken and must place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment.  Each lamp or container or package in which such lamps are contained must be labeled or marked clearly with one of the following phrases: "Universal Waste-Lamp(s)," or "Waste Lamps," or "Used Lamps."	Generation of universal waste lamps [as defined in 40 <i>CFR</i> 273.9 and <i>OAC</i> 3745-273-05]— <b>applicable</b>	40 <i>CFR</i> 273.33(d)(1) <i>OAC</i> 3745-273-33(D)(1)
	A large quantity handler of universal waste lamps must immediately clean up and place in a container any lamp that is broken and must place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment.		40 <i>CFR</i> 273.33(d)(2) <i>OAC</i> 3745-273-33(D)(2)
	Each lamp or container or package in which such lamps are contained must be labeled or marked clearly with one of the following phrases: "Universal Waste-Lamp(s)," or "Waste Lamps," or "Used Lamps."		40 <i>CFR</i> 273.34(e) <i>OAC</i> 3745-273-34(E)
	Mark or label the individual item with the date the lamp(s) became a waste, or mark or label the container or package with the date the wastes were received.		40 <i>CFR</i> 273.35(c) <i>OAC</i> 3745-273-35(C)
Management of used oil	Used oil shall not be stored in a unit other than a tank, container, or RCRA regulated unit.  Containers and aboveground tanks used to store used oil must be in good condition (no severe rusting, apparent structural defects, or deterioration) and not leaking (no visible leaks).	Generation and storage of used oil, as defined in 40 <i>CFR</i> 279.1 [ <i>OAC</i> 3745-279-01(A)(12)], that meets the applicability requirements of 40 <i>CFR</i> 279.10— <b>applicable</b>	40 <i>CFR</i> 279.22(a) <i>OAC</i> 3745-279-22(A)  40 <i>CFR</i> 279.22(b) (1) and (2) <i>OAC</i> 3745-279-22(B) (1) and (2)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Management of used oil (continued)	Containers and aboveground tanks used to store used oil and fill pipes used to transfer used oil into USTs must be labeled or marked clearly with the words “Used Oil.”		40 <i>CFR</i> 279.22(c)(1) and (2) <i>OAC</i> 3745-279-22 (C)(1)
	Upon detection of a release of used oil to the environment, a generator must stop the release; contain, cleanup, and properly manage the released used oil; and, if necessary, repair or replace any leaking used oil storage containers or tanks prior to returning to service.	Release of used oil to the environment— <b>applicable</b>	40 <i>CFR</i> 279.22(d) <i>OAC</i> 3745-279-22(D)
Management of PCB waste	Any person storing or disposing of PCB waste must do so in accordance with 40 <i>CFR</i> 761, Subpart D.	Storage or disposal of waste containing PCBs at concentrations $\geq$ 50 ppm— <b>applicable</b>	40 <i>CFR</i> 761.50(a)
	Any person cleaning up and disposing of PCBs shall do so based on the concentration at which the PCBs are found.	Cleanup or disposal of PCB remediation waste as defined in 40 <i>CFR</i> 761.3— <b>applicable</b>	40 <i>CFR</i> 761.61
Decontamination of PCB-contaminated materials prior to use, reuse, distribution in commerce, or disposal as a non-TSCA waste	Chopping (including wire chopping), distilling, filtering, oil/water separation, spraying, soaking, wiping, stripping of insulation, scraping, scarification or the use of abrasives or solvents may be used to remove or separate PCBs to the decontamination standards for liquids, concrete, or non-porous surfaces, as listed in 40 <i>CFR</i> 761.79(b).	Generation of PCB wastes, including water, organic liquids, non-porous surfaces (scrap metal from disassembled electrical equipment), concrete, and non-porous surfaces covered with porous surfaces, such as paint or coating on metal— <b>applicable</b>	40 <i>CFR</i> 761.79(b)
Decontamination of water containing PCBs to levels acceptable for discharge	For water discharged to a treatment works or to navigable waters, decontaminate to $< 3 \mu\text{g/L}$ (approximately $< 3$ ppb) or a PCB discharge limit included in a permit issued under Section 304(b) or 402 of the CWA; or	Discharge of water containing PCBs to a treatment works or navigable waters— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(1)(ii)
Decontamination of water containing PCBs to levels acceptable for unrestricted use	Decontaminate to $\leq 0.5 \mu\text{g/L}$ (approximately $\leq 0.5$ ppb) for unrestricted use.	Release of water containing PCBs for unrestricted use— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(1)(iii)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Decontamination of organic liquids or non-aqueous inorganic liquids containing PCBs	For organic liquids or non-aqueous inorganic liquids containing PCBs, decontamination standard is < 2 mg/kg (i.e., < 2 ppm) PCBs.	Release of organic liquids or non-aqueous liquid containing PCBs— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(2)
Decontamination of non-porous surfaces in contact with liquid PCBs to levels acceptable for unrestricted use	For non-porous surfaces previously in contact with liquid PCBs at any concentration, where no free-flowing liquids are currently present, ≤ 10 µg PCBs per 100 square centimeters (≤ 10 µg/100 cm <sup>2</sup> ) as measured by a standard wipe test (40 <i>CFR</i> 761.123) at locations selected in accordance with Subpart P of 40 <i>CFR</i> 761.	Release of non-porous surfaces in contact with liquid PCBs at any concentration for unrestricted use— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(3)(i)(A)
Decontamination of non-porous surfaces in contact with non-liquid PCBs to levels acceptable for unrestricted use	For non-porous surfaces in contact with non-liquid PCBs (including non-porous surfaces covered with a porous surface, such as paint or coating on metal), clean to Visual Standard No. 2, Near-White Blast Cleaned Surface Finish of the NACE. A person shall verify compliance with standard No. 2 by visually inspecting all cleaned areas.	Release of non-porous surfaces in contact with non-liquid PCBs for unrestricted use— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(3)(i)(B)
Decontamination of non-porous surfaces in contact with liquid PCBs to levels acceptable for disposal in a TSCA smelter	For non-porous surfaces previously in contact with liquid PCBs at any concentration, where no free-flowing liquids are currently present, decontaminate to < 100 µg/100 cm <sup>2</sup> as measured by a standard wipe test (Section 761.123) at locations selected in accordance with Subpart P of 40 <i>CFR</i> 761.	Disposal of non-porous surfaces previously in contact with liquid PCBs at any concentration into a smelter operating in accordance with Section 761.72(b)— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(3)(ii)(A)
Decontamination of non-porous surfaces in contact with non-liquid PCBs to levels acceptable for disposal in a TSCA smelter	For non-porous surfaces in contact with non-liquid PCBs (including non-porous surfaces covered with a porous surface, such as paint or coating on metal) clean to Visual Standard No. 3, Commercial Blast Cleaned Surface Finish, of the NACE. A person shall verify compliance with Standard No. 3 by visually inspecting all cleaned areas.	Disposal of non-porous surfaces in contact with non-liquid PCBs into a smelter operating in accordance with Section 761.72(b) — <b>applicable</b>	40 <i>CFR</i> 761.79(b)(3)(ii)(B)
Decontamination of concrete recently contaminated with PCBs	Decontamination standard for concrete is < 10 µg/100 cm <sup>2</sup> as measured by a standard wipe test (Section 761.123) if the decontamination procedure is commenced within 72 hours of the initial spill of PCBs to the concrete or portion thereof being decontaminated.	Decontamination of concrete within 72 hours of the initial spill of PCBs to the concrete— <b>applicable</b>	40 <i>CFR</i> 761.79(b)(4)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Disposal of materials previously contaminated with PCBs as non-TSCA waste	Materials from which PCBs have been removed by decontamination in accordance with 40 <i>CFR</i> 761.79, not including decontamination wastes and residuals under 40 <i>CFR</i> 761.79(g), are considered unregulated for disposal under Subpart D of TSCA (40 <i>CFR</i> 761).	Disposal of materials from which PCBs have been removed— <b>applicable</b>	40 <i>CFR</i> 761.79(a)(4)
Risk-based decontamination of PCB-containing materials	May decontaminate to an alternate risk-based decontamination standard under 40 <i>CFR</i> 761.79(h) if the standard does not pose an unreasonable risk of injury to health or the environment.	Decontamination of materials contaminated with PCBs— <b>applicable</b>	40 <i>CFR</i> 761.79(h)
Management of PCB/radioactive waste	Any person storing such waste $\geq$ 50 ppm PCBs must do so taking into account both its PCB concentration and radioactive properties, except as provided in 40 <i>CFR</i> 761.65(a)(1), (b)(1)(ii) and (c)(6)(i).	Generation of PCB/radioactive waste for disposal— <b>applicable</b>	40 <i>CFR</i> 761.50(b)(7)(i)
	Any person disposing of such waste must do so taking into account both its PCB concentration and its radioactive properties.		40 <i>CFR</i> 761.50(b)(7)(ii)
	If, after taking into account only the PCB properties in the waste, the waste meets the requirements for disposal in a facility permitted, licensed, or registered by a state as a municipal or non-municipal non-hazardous waste landfill, then the person may dispose of such waste without regard to the PCBs, based on its radioactive properties alone.		40 <i>CFR</i> 761.50(b)(7)(ii)
<b>Storage</b>			
Storage of hazardous wastes restricted from land disposal	Prohibits storage of hazardous waste restricted from land disposal unless the generator stores such waste in tanks, containers, or containment buildings on site solely for the purpose of accumulating such quantities as necessary to facilitate proper recovery, treatment, or disposal.	Accumulation of hazardous wastes restricted from land disposal solely for purpose of accumulation of quantities as necessary to facilitate proper recovery, treatment, or disposal— <b>applicable</b>	40 <i>CFR</i> 268.50 <i>OAC</i> 3745-270-50
Temporary storage and accumulation of hazardous waste in containers on site	A generator may accumulate hazardous waste at the facility provided that: <ul style="list-style-type: none"> <li>The waste is placed in containers that comply with the applicable requirements in 40 <i>CFR</i> 265.171-173 (Subpart I) [<i>OAC</i> 3745-66-70 to 3745-66-73],</li> </ul>	Accumulation of RCRA hazardous waste on site as defined in 40 <i>CFR</i> 260.1— <b>applicable</b>	40 <i>CFR</i> 262.34(a)(1)(i) <i>OAC</i> 3745-52-34(A)(1)(a)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage and accumulation of hazardous waste in containers on site (continued)	<ul style="list-style-type: none"> <li>• Container is marked with the date upon which each period of accumulation begins,</li> </ul>	<p>40 <i>CFR</i> 262.34(a)(2) <i>OAC</i> 3745-52-34(A)(2)</p>	
	<ul style="list-style-type: none"> <li>• Container is marked with the words “hazardous waste,”</li> </ul>	<p>40 <i>CFR</i> 262.34(a)(3) <i>OAC</i> 3745-52-34(A)(3)</p>	
	<ul style="list-style-type: none"> <li>• The generator complies with the requirements in paragraph (A)(5) of rule 3745-270-07 and rules 3745-65-16, 3745-65-30 to 3745-65-37, and 3745-65-50 to 3745-65-56 of the Administrative Code.</li> </ul>	<p>40 <i>CFR</i> 262.34(a)(4) <i>OAC</i> 3745-52-34(A)(4)</p>	
	<p>Generator is exempt from all requirements in rules 3745- 66-10 to 3745-66-21 and 3745-66-40 to 3745-66-48 of the Administrative Code except for paragraphs (A) and (B) of rule 3745-66-11 and rule 3745-66-14 of the Administrative Code.</p>	<p>40 <i>CFR</i> 262.34(a)(1) <i>OAC</i> 3745-52-34(A)(1)(e)</p>	
	<p>Container must be marked with either the words “Hazardous Wastes” or with other words that identify the contents.</p>	<p>Accumulation of 55 gal or less of hazardous waste or 1 qt or less of acutely hazardous waste at or near any point of generation—<b>applicable</b></p>	<p>40 <i>CFR</i> 262.34(c)(1)(ii) <i>OAC</i> 3745-52-34(C)(1)(b)</p>
<p>For the excess waste, must comply within 3 days with the requirements of <i>OAC</i> 3745-52-34(A) or other applicable provisions of Chapter 3745-52 of the Administrative Code. During the 3-day period, comply with <i>OAC</i> 3745-52-34(C)(1)(a) and (b). Must mark container holding excess accumulation with the date the excess accumulation began.</p>	<p>40 <i>CFR</i> 262.34(c)(2) <i>OAC</i> 3745-52-34(C)(2)</p>		
Accumulation of rejected shipments of hazardous waste	<p>A generator who receives a shipment of hazardous waste back as a rejected load or residue from a facility in accordance with a manifest discrepancy may accumulate the waste on-site in accordance with paragraphs (A) and (B) or (D), (D), and (F) of <i>OAC</i> 3745-52-34 depending on the amount of hazardous waste on-site in that calendar month.</p>	<p>Accumulation of RCRA hazardous waste on site as defined in 40 <i>CFR</i> 260.10—<b>applicable</b></p>	<p>40 <i>CFR</i> 262.34(m) <i>OAC</i> 3745-52-34(M)</p>
Management of hazardous waste stored in containers	<p>If container is not in good condition (e.g., severe rusting, structural defects) or if it begins to leak, must transfer waste into container in good condition.</p>	<p>Storage of RCRA hazardous waste in containers—<b>applicable</b></p>	<p>40 <i>CFR</i> 264.171 <i>OAC</i> 3745-55-71</p>
	<p>Use container made or lined with materials compatible with waste to be stored so that the ability of the container is not impaired.</p>		<p>40 <i>CFR</i> 264.172 <i>OAC</i> 3745-55-72</p>

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Management of hazardous waste stored in containers (continued)	Keep containers closed during storage, except to add/remove waste.		40 <i>CFR</i> 264.173(a) <i>OAC</i> 3745-55-73(A)
	Open, handle, and store containers in a manner that will not cause containers to rupture or leak.		40 <i>CFR</i> 264.173(b) <i>OAC</i> 3745-55-73(B)
Inspection of RCRA container storage area	At least weekly, must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.	Storage of RCRA hazardous waste in containers— <b>applicable</b>	40 <i>CFR</i> 264.174 <i>OAC</i> 3745-55-74
Operation of a RCRA container storage area	Area must be sloped or otherwise designed and operated to drain liquid from precipitation, or containers must be elevated or otherwise protected from contact with accumulated liquid.	Storage in containers of RCRA hazardous wastes that do not contain free liquids— <b>applicable</b>	40 <i>CFR</i> 264.175(c) <i>OAC</i> 3745-55-75(C)
Storage of RCRA hazardous waste with free liquids in containers	Area must have a containment system designed and operated in accordance with 40 <i>CFR</i> 264.175(b) [ <i>OAC</i> 3745-55-75(B)] as follows:	Storage of RCRA hazardous waste with free liquids or F020, F021, F022, F023, F026, and F027 in containers— <b>applicable</b>	40 <i>CFR</i> 264.175(a) and (d) <i>OAC</i> 3745-55-75 (A) and (D)
	<ul style="list-style-type: none"> <li>• A base must underlie the containers that is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;</li> </ul>		40 <i>CFR</i> 264.175(b)(1) <i>OAC</i> 3745-55-75(B)(1)
	<ul style="list-style-type: none"> <li>• Base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;</li> </ul>		40 <i>CFR</i> 264.175(b)(2) <i>OAC</i> 3745-55-75(B)(2)
	<ul style="list-style-type: none"> <li>• Must have sufficient capacity to contain 10% of the volume of containers or volume of largest container, whichever is greater;</li> </ul>		40 <i>CFR</i> 264.175(b)(3) <i>OAC</i> 3745-55-75(B)(3)
	<ul style="list-style-type: none"> <li>• Run-on into the system must be prevented unless the collection system has sufficient capacity to contain along with volume required for containers; and</li> </ul>		40 <i>CFR</i> 264.175(b)(4) <i>OAC</i> 3745-55-75(B)(4)
	<ul style="list-style-type: none"> <li>• Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in a timely manner as or necessary to prevent overflow.</li> </ul>		40 <i>CFR</i> 264.175(b)(5) <i>OAC</i> 3745-55-75(B)(5)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Storage of ignitable or reactive waste in containers	Containers holding ignitable or reactive waste must be located at least fifteen meters (50 ft) from the facility's property line.	Storage of ignitable or reactive RCRA hazardous waste in containers— <b>applicable</b>	40 <i>CFR</i> 264.176 <i>OAC</i> 3745-55-76
Storage of incompatible waste in containers	Must not place incompatible wastes in same container unless comply with 40 <i>CFR</i> 264.17(b) [ <i>OAC</i> 3745-54-17(B)].	Storage of “incompatible” RCRA hazardous wastes in containers— <b>applicable</b>	40 <i>CFR</i> 264.177(a) <i>OAC</i> 3745-55-77(A)
	Waste shall not be placed in an unwashed container that previously held an incompatible waste or material.		40 <i>CFR</i> 264.177(b) <i>OAC</i> 3745-55-77(B)
	A container holding incompatible wastes must be separated from any waste or nearby materials or must protect them from one another by using a dike, berm, wall, or other device.		40 <i>CFR</i> 264.177(c) <i>OAC</i> 3745-55-77(C)
Design and operation of a hazardous waste facility (e.g., storage areas)	Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.	Construction or setup of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.31 <i>OAC</i> 3745-54-31
	<i>Required equipment</i> All facilities shall be equipped with the following:		40 <i>CFR</i> 264.32 <i>OAC</i> 3745-54-32
	<ul style="list-style-type: none"> <li>• An internal communications or alarm system capable of providing immediate emergency instruction to facility personnel.</li> </ul>		40 <i>CFR</i> 264.32(A) <i>OAC</i> 3745-54-32(A)
	<ul style="list-style-type: none"> <li>• A device capable of summoning emergency assistance from local police departments, fire departments, or Ohio EPA or local emergency response teams.</li> </ul>		40 <i>CFR</i> 264.32(B) <i>OAC</i> 3745-54-32(B)
	<ul style="list-style-type: none"> <li>• Portable fire extinguishers, fire control equipment, including but not limited to, special extinguishing equipment, such as that using foam, inert gas, or dry chemicals, spill control equipment, and decontamination equipment.</li> </ul>		40 <i>CFR</i> 264.32(C) <i>OAC</i> 3745-54-32(C)
	<ul style="list-style-type: none"> <li>• Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.</li> </ul>		40 <i>CFR</i> 264.32(D) <i>OAC</i> 3745-54-32(D)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Hazardous waste facility – security system	Must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.14(a) <i>OAC</i> 3745-54-14(A)
	Must have a 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; or an artificial or natural barrier which completely surrounds the active portion of the facility; and a means to control entry, at all times, through the gates or other entrances to the active portion of the facility.		40 <i>CFR</i> 264.14(b) <i>OAC</i> 3745-54-14(B)
	Must post a sign with the legend “Danger – Unauthorized Personnel Keep Out” at each entrance to the active portion of a facility and at other locations in sufficient numbers to be seen from any approach in the active portion. Legend must be written in English and be legible from a distance of at least 25 ft.		40 <i>CFR</i> 264.14(c) <i>OAC</i> 3745-54-14(C)
Hazardous waste facility – general inspection requirements	Must inspect facility for malfunctions and deterioration, operator errors, and discharges to identify any problems and remedy any deterioration or malfunction of equipment or structures on a schedule that ensures that the problem does not lead to an environmental or human health hazard.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.15(a) and (c) <i>OAC</i> 3745-54-15 (A) and (C)
Hazardous waste facility – training requirements	Facility personnel must successfully complete a program of classroom instruction or on-the-job training in accordance with the program outlined in 40 <i>CFR</i> 264.16 [ <i>OAC</i> 3745-54-16] and take part in an annual review of this initial training.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.16 <i>OAC</i> 3745-54-16
Hazardous waste facility – testing and maintenance of equipment	All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, shall be tested and maintained as necessary to assure its proper operation in time of emergency.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.33 <i>OAC</i> 3745-54-33
Hazardous waste facility – access to communications or alarm system	Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation shall have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless such a device is not required under 40 <i>CFR</i> 264.32 [ <i>OAC</i> 3745-54-32].	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.34(a) <i>OAC</i> 3745-54-34(A)



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Hazardous waste facility – access to communications or alarm system (continued)	If there is only one employee on the premises while the facility is operating, such employee shall have immediate access to a device capable of summoning external emergency assistance, unless such a device is not required under 40 <i>CFR</i> 264.32 [ <i>OAC</i> 3745-54-32].		40 <i>CFR</i> 264.34(b) <i>OAC</i> 3745-54-34(B)
Hazardous waste facility – required aisle space	Shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be satisfactorily demonstrated that aisle space is not needed for any of these purposes.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.35 <i>OAC</i> 3745-54-35
Hazardous waste facility – purpose and implementation of a contingency plan	Substantive requirements will be met to minimize hazards to human health or the environment from fires, explosions or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.51(a) <i>OAC</i> 3745-54-51(A)
	Substantive requirements shall be implemented immediately whenever there is a fire, explosion or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.		40 <i>CFR</i> 264.51(b) <i>OAC</i> 3745-54-51(B)
Hazardous waste facility – content of contingency plan	Comply with the substantive requirements of §§264.51 and 264.56 [rules 3745-54-51 and 3745-54-56 of the Administrative Code] in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility. 40 <i>CFR</i> 264.52(a) through (f) [ <i>OAC</i> 3745-54-52(A) through (F)] describes what must be included in the Plan.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.52 <i>OAC</i> 3745-54-52
Hazardous waste facility – emergency coordinator	At all times, there shall be at least one employee either on the facility premises or on call with responsibility for coordinating all internal emergency response measures. This coordinator shall be thoroughly familiar with all aspects of the facility’s contingency plan, all operations and activities at the facility, the locations and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person shall have the authority to commit the resources needed to implement the contingency plan.	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.55 <i>OAC</i> 3745-54-55

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Hazardous waste facility – emergency procedures	Whenever there is an imminent or actual emergency situation, the emergency coordinator, or his designee when the emergency coordinator is on call, must immediately implement the substantive requirements detailed in 40 <i>CFR</i> 264.56 [OAC 3745-54-56].	Operation of a RCRA hazardous waste facility— <b>applicable</b>	40 <i>CFR</i> 264.56 OAC 3745-54-56
Temporary storage or treatment of hazardous waste in waste piles – applicability	OAC 3745-56-50 to 3745-56-59 applies to owners and operators of facilities that store or treat hazardous waste in piles, except as OAC 3745-54-01 provides otherwise.	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 <i>CFR</i> 264.250(a) OAC 3745-56-50(A)
	OAC 3745-56-50 to 3745-56-59 does not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation as landfills under OAC 3745-57-02 to 3745-57-17.		40 <i>CFR</i> 264.250(b) OAC 3745-56-50(B)
	Owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither run-off nor leachate is generated is not subject to regulation under OAC 3745-56-51 or OAC 3745-54-90 to 3745-54-101, provided that:		40 <i>CFR</i> 264.250(c) OAC 3745-56-50(C)
	<ul style="list-style-type: none"> <li>• Liquids or materials containing free liquids are not placed in the pile; and</li> <li>• Pile is protected from surface water run-on by the structure or in some other manner; and</li> <li>• Pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and</li> <li>• Pile will not generate leachate through decomposition or other reactions.</li> </ul>		
Temporary storage or treatment of hazardous waste in waste piles – design and operating requirements	A waste pile (except for an existing portion of a waste pile) must have:	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 <i>CFR</i> 264.251(a) OAC 3745-56-51(A)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – design and operating requirements (continued)	(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility. The liner must be:		40 CFR 264.251(a)(1) OAC 3745-56-51(A)(1)
	<ul style="list-style-type: none"> <li>• Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climate conditions, the stress of installation, and the stress of daily operation; and</li> </ul>		40 CFR 264.251(a)(1)(i) OAC 3745-56-51(A)(1)(a)
	<ul style="list-style-type: none"> <li>• Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of liner due to settlement, compression, or uplift; and</li> </ul>		40 CFR 264.251(a)(1)(ii) OAC 3745-56-51(A)(1)(b)
	<ul style="list-style-type: none"> <li>• Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and</li> </ul>		40 CFR 264.251(a)(1)(iii) OAC 3745-56-51(A)(1)(c)
	(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. Design and operating conditions will be specified to ensure that the leachate depth over the liner does not exceed 30 cm (1 ft). The leachate collection and removal system must be:		
	<ul style="list-style-type: none"> <li>• Constructed of materials that are: (i) chemically resistant to waste managed in the pile and the leachate expected to be generated; and (ii) of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and</li> </ul>		40 CFR 264.251(a)(2)(i) OAC 3745-56-51(A)(2)(a)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – design and operating requirements (continued)	<ul style="list-style-type: none"> <li>• Designed and operated to function without clogging through the scheduled closure of the waste pile.</li> </ul> <p>The owner or operator will be exempted from the requirements of OAC 3745-56-51(A) if the Director finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Director will consider the factors listed in OAC 3745-56-51(B)(1) through (4).</p> <p>The owner or operator of each new waste pile unit, each lateral expansion of a waste pile unit, and each replacement of an existing waste pile unit must install two or more liners and a leachate collection and removal system above and between such liners.</p> <p>The liner system must include:</p> <ul style="list-style-type: none"> <li>• A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and</li> <li>• A composite bottom liner consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize migration of hazardous constituents if a breach in the upper component were to occur. Lower component must be constructed of at least 3 ft (91.0 cm) of compacted soil material with a hydraulic conductivity of no more than <math>1 \times 10^{-7}</math> cm/s.</li> </ul> <p>The liners must comply with paragraphs (A)(1)(a), (A)(1)(b), and (A)(1)(c) of OAC 3745-56-51.</p>		<p>40 CFR 264.251(a)(2)(ii) OAC 3745-56-51(A)(2)(b)</p> <p>40 CFR 264.251(b) OAC 3745-56-51(B)</p> <p>40 CFR 264.251(c) OAC 3745-56-51(C)</p> <p>40 CFR 264.251(c)(1)(i)(A) OAC 3745-56-51 (C)(1)(a)(i)</p> <p>40 CFR 264.251(c)(1)(i)(B) OAC 3745-56-51 (C)(1)(a)(ii)</p> <p>40 CFR 264.251(c)(1)(ii) OAC 3745-56-51 (C)(1)(b)</p>

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – design and operating requirements (continued)	The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the waste pile during the active life and post-closure care period. Design and operating conditions will be specified to ensure that the leachate depth over the liner does not exceed 30 cm (1 ft). The leachate collection and removal system must comply with OAC 3745-56-51(C)(3)(c) and (C)(3)(d).		40 CFR 264.251(c)(2) OAC 3745-56-51(C)(2)
	The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:		40 CFR 264.251(c)(3) OAC 3745-56-51(C)(3)
	<ul style="list-style-type: none"> <li>• Constructed with a bottom slope of 1 percent or more;</li> </ul>		40 CFR 264.251(c)(3)(i) OAC 3745-56-51 (C)(3)(a)
	<ul style="list-style-type: none"> <li>• Constructed of granular drainage materials with a hydraulic conductivity of <math>1 \times 10^{-2}</math> cm/s or more and a thickness of 12 in. (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of <math>3 \times 10^{-5}</math> m<sup>2</sup>/s or more;</li> </ul>		40 CFR 264.251(c)(3)(ii) OAC 3745-56-51 (C)(3)(b)
	<ul style="list-style-type: none"> <li>• Constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the waste pile;</li> </ul>		40 CFR 264.251(c)(3)(iii) OAC 3745-56-51 (C)(3)(c)
<ul style="list-style-type: none"> <li>• Designed and operated to minimize clogging during the active life and post-closure period; and</li> </ul>		40 CFR 264.251(c)(3)(iv) OAC 3745-56-51 (C)(3)(d)	

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – design and operating requirements (continued)	<ul style="list-style-type: none"> <li>Constructed with sumps and liquid removal methods of sufficient size to collect and remove liquids from sump and prevent liquids from backing up into drainage layer. Each unit must have its own sump(s). Design of each sump and removal system must provide a method for measuring and recording volume of liquids present in sump and of liquids removed.</li> </ul>		40 CFR 264.251(c)(3)(v) OAC 3745-56-51 (C)(3)(e)
	The owner or operator must collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.		40 CFR 264.251(c)(4) OAC 3745-56-51(C)(4)
	The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.		40 CFR 264.251(c)(5) OAC 3745-56-51(C)(5)
	The Director may approve alternative design or operating practices if the owner or operator demonstrates that such design and operating practices, together with location characteristics: (1) will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in this rule; and (2) will allow detection of leaks of hazardous constituents through the top liner at least as effectively.		40 CFR 264.251(d) OAC 3745-56-51(D)
	The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.		40 CFR 264.251(g) OAC 3745-56-51(G)
	The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.		40 CFR 264.251(h) OAC 3745-56-51(H)
	Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.		40 CFR 264.251(i) OAC 3745-56-51(I)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – design and operating requirements (continued)	If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal.	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.251(j) OAC 3745-56-51(J)
Temporary storage or treatment of hazardous waste in waste piles – action leakage rate	The Director will approve an action leakage rate for waste piles subject to OAC 3745-56-51(C) or (D). The action leakage rate is the maximum design flow rate that the leak detection system can remove without the fluid head on the bottom liner exceeding 1 ft. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the leak detection system, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the leak detection system, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.252(a) OAC 3745-56-52(A)
	To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under paragraph (C) of OAC 3745-56-54 to an average daily flow rate (gal/acre/day) for each sump. Unless the Director approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.		40 CFR 264.252(b) OAC 3745-56-52(B)
Temporary storage or treatment of hazardous waste in waste piles – response actions	The owner or operator of waste pile units subject to paragraph (C) or (D) of OAC 3745-56-51 must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in OAC 3745-56-53(B).	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.253(a) OAC 3745-56-53(A)
	If the flow rate into the leak detection system exceeds the action leakage rate for any sump, owner or operator must:		40 CFR 264.253(b)(1) – (6) OAC 3745-56-53 (B)(1) – (6)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – response actions (continued)	<ul style="list-style-type: none"> <li>• Notify the director in writing of the exceedance within 7 days of the determination;</li> <li>• Submit a preliminary written assessment to the Director within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;</li> <li>• Determine to the extent practicable the location, size, and cause of any leak;</li> <li>• Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;</li> <li>• Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks; and</li> <li>• Within 30 days after notification that the action leakage rate has been exceeded, submit to the Director the results of the analyses specified in paragraphs (B)(3), (B)(4), and (B)(5) of this rule, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit a report summarizing the results of any remedial actions taken and actions planned.</li> </ul> <p>To make the leak and/or remediation determinations in OAC 3745-56-53(B)(3), (B)(4), and (B)(5), the owner or operator must:</p> <ul style="list-style-type: none"> <li>• Assess the source of liquids and amounts of liquids by source;</li> <li>• Conduct fingerprint, hazardous constituent, or other analyses of liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and</li> </ul>		<p>40 CFR 264.253(c)(1) (i) – (iii) OAC 3745-56-53 (C)(1)(a) – (c)</p>



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – response actions (continued)	<ul style="list-style-type: none"> <li>Assess the seriousness of any leaks in terms of potential for escaping into the environment; or</li> <li>Document why such assessments are not needed.</li> </ul>	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.253(c)(2) OAC 3745-56-53(C)(2) 40 CFR 264.254(a) OAC 3745-56-54(A)
Temporary storage or treatment of hazardous waste in waste piles – monitoring and inspections	<p>During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:</p> <ul style="list-style-type: none"> <li>Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and</li> <li>Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.</li> </ul> <p>While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:</p> <ul style="list-style-type: none"> <li>Deterioration, malfunctions, or improper operation of run-on and run-off control systems; and</li> <li>Proper functioning of wind dispersal control systems, where present; and</li> <li>The presence of leachate in and proper functioning of leachate collection and removal systems, where present.</li> </ul> <p>An owner or operator required to have a leak detection system under OAC 3745-56-51(C) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period.</p>	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.254(a)(1) OAC 3745-56-54(A)(1)  40 CFR 264.254(a)(2) OAC 3745-56-54(A)(2)  40 CFR 264.254(b) OAC 3745-56-54(B)  40 CFR 264.254(b)(1) OAC 3745-56-54(B)(1)  40 CFR 264.254(b)(2) OAC 3745-56-54(B)(2)  40 CFR 264.254(b)(3) OAC 3745-56-54(B)(3)  40 CFR 264.254(c) OAC 3745-56-54(C)
Temporary storage or treatment of hazardous waste in waste piles – special requirements for ignitable or reactive waste	Ignitable or reactive waste shall not be placed in a waste pile unless the waste and the waste pile satisfy all applicable requirements of OAC 3745-270, and:	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.256 OAC 3745-56-56

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – special requirements for ignitable or reactive waste (continued)	<ul style="list-style-type: none"> <li>• Addition of the waste to an existing pile results in waste or mixture no longer meeting the definition of ignitable or reactive waste under OAC 3745-51-21 or 3745-51-23 and complies with OAC 3745-54-17(B); or</li> </ul>		40 CFR 264.256(a) OAC 3745-56-56(A)
	<ul style="list-style-type: none"> <li>• The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.</li> </ul>		40 CFR 264.256(b) OAC 3745-56-56(B)
Temporary storage or treatment of hazardous waste in waste piles – special requirements for incompatible waste	Incompatible wastes, or incompatible wastes and materials (see the appendix to OAC 3745-55-99 for examples), shall not be placed in the same pile, unless OAC 3745-54-17(B) is complied with.	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.257(a) OAC 3745-56-57(A)
	A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments shall be separated from the other materials, or protected from them by means of a dike, berm, wall or other device.		40 CFR 264.257(b) OAC 3745-56-57(B)
	Hazardous waste shall not be piled on the same base where incompatible wastes or materials were previously piled unless the base has been decontaminated sufficiently to ensure compliance with OAC 3745-54-17(B).		40 CFR 264.257(c) OAC 3745-56-57(C)
Temporary storage or treatment of hazardous waste in waste piles – closure and post-closure care	At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless OAC 3745-51-03(D) applies.	Storage of RCRA hazardous waste in a waste pile— <b>applicable</b>	40 CFR 264.258(a) OAC 3745-56-58(A)
	If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (A) of this rule, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance OAC 3745-57-10.		40 CFR 264.258(b) OAC 3745-56-58(B)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage or treatment of hazardous waste in waste piles – closure and post-closure care (continued)	The owner or operator of a waste pile that does not comply with the liner requirements of OAC 3745-56-51(A)(1) and is not exempt from them in accordance with OAC 3745-56-50(C) or OAC 3745-56-51(B) must:		40 CFR 264.258(c)(1) OAC 3745-56-58(C)(1)
	Include in the closure plan for the pile in accordance with OAC 3745-55-12 both a plan for complying with paragraph (A) of this rule and a contingent plan for complying with paragraph (B) of this rule in case not all contaminated subsoils can be practicably removed at closure; and		40 CFR 264.258(c)(1)(i) OAC 3745-56-58(C)(1)(a)
	Prepare a contingent post-closure plan in accordance with OAC 3745-55-18 for complying with paragraph (B) of this rule in case not all contaminated subsoils can be practicably removed at closure.		40 CFR 264.258(c)(1)(ii) OAC 3745-56-58(C)(1)(b)
	Cost estimates calculated in accordance with OAC 3745-55-42 and 3745-55-44 for closure and post-closure care of a pile subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan but are not required to include the cost of expected closure under paragraph (A) of this rule.		40 CFR 264.258(c)(2) OAC 3745-56-58(C)(2)
Temporary storage of RCRA remediation waste in a staging pile	<p>May be temporarily stored (including mixing, sizing, blending, or other similar physical operations intended to prepare the wastes for subsequent management or treatment) at a facility provided that the staging pile will be designed to:</p> <ul style="list-style-type: none"> <li>• Facilitate a reliable, effective and protective remedy;</li> <li>• Prevent or minimize releases of hazardous wastes and constituents into the environment, and minimize or adequately control cross-media transfer, as necessary, to protect human health and the environment (e.g., through the use of liners, covers, run on/run off controls, as appropriate).</li> </ul>	<p>Accumulation of non-flowing hazardous remediation waste (or remediation waste otherwise subject to land disposal restrictions) as defined in 40 CFR 260.10—<b>applicable</b></p>	<p>40 CFR 264.554(d)(1) OAC 3745-57-74</p> <p>40 CFR 264.554(d)(1)(i) OAC 3745-57-74(D)(1)(a)</p> <p>40 CFR 264.554(d)(1)(ii) OAC 3745-57-74(D)(1)(b)</p>

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage of RCRA remediation waste in a staging pile (continued)	Must not place incompatible wastes in same pile unless comply with 40 <i>CFR</i> 264.17(b) [ <i>OAC</i> 3745-54-17(B)].	Storage of “incompatible” remediation waste in staging pile— <b>applicable</b>	40 <i>CFR</i> 264.554(f)(1) <i>OAC</i> 3745-57-74(F)(1)
	Incompatible wastes must be separated from any waste or nearby materials or must protect them from one another by using a dike, berm, wall, or other device.		40 <i>CFR</i> 264.554(f)(2) <i>OAC</i> 3745-57-74(F)(2)
	Must not pile remediation waste on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to comply with 40 <i>CFR</i> 274.17(b) [ <i>OAC</i> 3745-54-17(B)].		40 <i>CFR</i> 264.554(f)(3) <i>OAC</i> 3745-57-74(F)(3)
Temporary storage of PCB waste in a non-RCRA regulated area	Except as provided in 40 <i>CFR</i> 761.65 (b)(2), (c)(1), (c)(7), (c)(9), and (c)(10), after July 1, 1978, facilities used for the storage of PCBs and PCB Items designated for disposal shall comply with the requirements in 40 <i>CFR</i> 761.65(b)(1).	Storage of PCBs and PCB items at concentrations ≥ 50 ppm for disposal— <b>applicable</b>	40 <i>CFR</i> 761.65(b)
	The facilities shall meet the following criteria:		40 <i>CFR</i> 761.65(b)(1)
	<ul style="list-style-type: none"> <li>• Adequate roof and walls to prevent rain water from reaching the stored PCBs and PCB Items;</li> </ul>		40 <i>CFR</i> 761.65(b)(1)(i)
	<ul style="list-style-type: none"> <li>• Adequate floor that has continuous curbing with a minimum 6-in.-high curb. Floor and curb must provide containment volume equal to at least two times the internal volume of the largest PCB article or container or 25% of the internal volume of all articles or containers stored there, whichever is greater. <i>Note:</i> 6-in. minimum curbing not required for area storing PCB/radioactive waste;</li> </ul>		40 <i>CFR</i> 761.65(b)(1)(ii)
	<ul style="list-style-type: none"> <li>• No drain valves, floor drains, expansion joints, sewer lines, or other openings that would permit liquids to flow from the curbed area;</li> </ul>		40 <i>CFR</i> 761.65(b)(1)(iii)
	<ul style="list-style-type: none"> <li>• Floors and curbing constructed of Portland cement, concrete, or a continuous, smooth, nonporous surface as defined in §761.3 that prevents or minimizes penetration of PCBs; and</li> </ul>		40 <i>CFR</i> 761.65(b)(1)(iv)
	<ul style="list-style-type: none"> <li>• Not located at a site below the 100-year flood water elevation.</li> </ul>		40 <i>CFR</i> 761.65(b)(1)(v)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Temporary storage of PCB waste in a RCRA-regulated area	Does not have to meet storage unit requirements in 40 <i>CFR</i> 761.65(b)(1) provided unit is stored in compliance with RCRA and PCB spills are cleaned up in accordance with Subpart G of 40 <i>CFR</i> 761.	Storage of PCBs and PCB items at concentrations $\geq$ 50 ppm for disposal— <b>applicable</b>	40 <i>CFR</i> 761.65(b)(2)(i) to (iv)
Temporary storage of PCB waste in containers	<p>Container(s) shall be marked as illustrated in 40 <i>CFR</i> 761.45(a).</p> <p>Storage area must be properly marked as required by 40 <i>CFR</i> 761.40(a)(10).</p> <p>Any leaking PCB items and their contents shall be transferred immediately to a properly marked non-leaking container(s).</p> <p>Except as provided in 40 <i>CFR</i> 761.65(c)(6)(i) and (ii), container(s) shall be in accordance with requirements set forth in DOT HMR at 49 <i>CFR</i> 171-180.</p> <p>Items shall be dated when they are removed from service and the storage shall be managed so that PCB items can be located by this date. [Note: Date should be marked on the container.]</p>	Storage of PCBs and PCB items at concentrations $\geq$ 50 ppm for disposal— <b>applicable</b>	<p>40 <i>CFR</i> 761.40(a)(1)</p> <p>40 <i>CFR</i> 761.65(c)(3)</p> <p>40 <i>CFR</i> 761.65(c)(5)</p> <p>40 <i>CFR</i> 761.65(c)(6)</p>
Risk-based storage of PCB remediation waste or bulk product waste prior to disposal	May store in a manner other than prescribed in 40 <i>CFR</i> 761.65 if the method will not pose an unreasonable risk of injury to health or the environment.	PCB items (includes PCB wastes) removed from service for disposal— <b>applicable</b>	40 <i>CFR</i> 761.65(c)(8)
Temporary storage of bulk PCB remediation waste or PCB bulk product waste in a TSCA waste pile	<p>Waste must be placed and managed in accordance with the design and operation standards, including liner and cover requirements and run-off control systems, in 40 <i>CFR</i> 761.65(c)(9).</p> <p>Requirements of 40 <i>CFR</i> 761.65(c)(9) of this part may be modified under the risk-based disposal option of Section 761.61(c).</p>	Storage of PCB remediation waste or bulk product waste prior to disposal— <b>applicable</b>	<p>40 <i>CFR</i> 761.61(c)</p> <p>40 <i>CFR</i> 761.62(c)</p> <p>40 <i>CFR</i> 761.65(c)(9)(i)</p> <p>40 <i>CFR</i> 761.65(c)(9)(iv)</p>
Storage of PCB/radioactive waste in containers	<p>For liquid wastes, containers must be nonleaking.</p> <p>For nonliquid wastes, containers must be designed to prevent buildup of liquids if such containers are stored in an area meeting the containment requirements of 40 <i>CFR</i> 761.65(b)(1)(ii); and</p> <p>For both liquid and nonliquid wastes, containers must meet all substantive requirements pertaining to nuclear criticality safety.</p>	Storage of PCB/radioactive waste in containers other than those meeting DOT HMR performance standards— <b>applicable</b>	<p>40 <i>CFR</i> 761.65(c)(6)(i)(A)</p> <p>40 <i>CFR</i> 761.65(c)(6)(i)(B)</p> <p>40 <i>CFR</i> 761.65(c)(6)(i)(C)</p>

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**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Temporary staging and storage of LLW	Shall not be readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water.	Management and storage of LLW at a DOE facility— <b>TBC</b>	DOE M 435.1-1(IV)(N)(1)
	Shall be stored in a location and manner that protects the integrity of waste for the expected time of storage.		DOE M 435.1-1(IV)(N)(3)
	Staging of LLW shall be for the purpose of accumulation of such quantities of waste as necessary to facilitate transportation, treatment, and disposal.		DOE M 435.1-1(IV)(N)(7)
<b><i>Treatment/Disposal</i></b>			
Disposal of RCRA-prohibited hazardous waste in a land-based unit	May be land disposed only if it meets the applicable requirements in the table “Treatment Standards for Hazardous Waste” at 40 <i>CFR</i> 268.40 ( <i>OAC</i> 3745-270-40) before land disposal. The table lists either “total waste” standards, “waste-extract” standards, or “technology-specific” standards [as detailed further in 40 <i>CFR</i> 268.42 ( <i>OAC</i> 3745-270-42)].	Land disposal, as defined in 40 <i>CFR</i> 268.2, of RCRA prohibited waste [as listed in 40 <i>CFR</i> 268.20 to .39 ( <i>OAC</i> 3745-270-20 to -39)] — <b>applicable</b>	40 <i>CFR</i> 268.40(a) <i>OAC</i> 3745-270-40(A) 40 <i>CFR</i> 268.30 to 268.40 <i>OAC</i> 3745-270-30 to -40 40 <i>CFR</i> 268.42 <i>OAC</i> 3745-270-42
	For characteristic wastes (D001 – D043) that are subject to the treatment standards, all underlying hazardous constituents must meet the UTSs specified in 40 <i>CFR</i> 268.48 ( <i>OAC</i> 3745-27048).	Land disposal of restricted RCRA characteristic wastes (D001-D043) that are not managed in a wastewater treatment unit that is regulated under the CWA, that is CWA equivalent, or that is injected into a Class I nonhazardous injection well— <b>applicable</b>	40 <i>CFR</i> 268.40(e) <i>OAC</i> 3745-270-40(E) 40 <i>CFR</i> 268.48 <i>OAC</i> 3745-270-48
	May be land disposed if the wastes no longer exhibit a characteristic at the point of land disposal, unless the wastes are subject to a specified method of treatment other than DEACT in 40 <i>CFR</i> 628.40 ( <i>OAC</i> 3745-270-48), or are D003 reactive cyanide.	Land disposal of RCRA-restricted characteristic wastes— <b>applicable</b>	40 <i>CFR</i> 268.1(c)(4)(iv) <i>OAC</i> 3745-270-01 (C)(4)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Disposal of RCRA-prohibited hazardous waste in a land-based unit (continued)	<p>May be land disposed if treated prior to disposal as provided under the “Alternative Treatment Standards for Hazardous Debris” in 40 <i>CFR</i> 268.45(a)(1)-(5) [OAC 3745-270-45(A) (1)-(5)] unless it is determined under 40 <i>CFR</i> 261.3(f)(2) [OAC 3745-51-03(F)(2)] that the debris is no longer contaminated with hazardous waste <u>or</u> the debris is treated to the waste specific treatment standard provided in 40 <i>CFR</i> 268.40 (OAC 3745-270-40) for the waste contaminating the debris.</p>	<p>Land disposal, as defined in 40 <i>CFR</i> 268.2 (OAC 3745-270-02), of RCRA-restricted hazardous debris—<b>applicable</b></p>	<p>40 <i>CFR</i> 268.45(a) OAC 3745-270-45(A)</p>
	<p>The hazardous debris must be treated for each “contaminant subject to treatment,” which must be determined in accordance with 40 <i>CFR</i> 268.45(b) [OAC 3745-270-45(B)].</p>		<p>40 <i>CFR</i> 268.45(b) OAC 3745-270-45(B)</p>
	<p><i>Soils</i> May be land disposed if treated prior to disposal according to the alternative treatment standards of 40 <i>CFR</i> 268.49(c) [OAC 3745-270-49(C)] or according to the UTSs specified in 40 <i>CFR</i> 268.48 (OAC 3745-270-48) applicable to the listed hazardous waste and/or applicable characteristic of hazardous waste if the soil is characteristic.</p>	<p>Land disposal, as defined in 40 <i>CFR</i> 268.2 (OAC 3745-270-02), of RCRA-restricted hazardous soils—<b>applicable</b></p>	<p>40 <i>CFR</i> 268.49(b) and (c) OAC 3745-270-49 (B) and (C)</p>
Variance from a treatment standard for RCRA-restricted hazardous wastes	<p>A variance from a treatment standard may be approved if:</p> <ul style="list-style-type: none"> <li>• It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard; or</li> <li>• It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard even through such treatment is technically possible.</li> </ul>	<p>Generation of a RCRA hazardous waste requiring treatment prior to land disposal—<b>applicable</b></p>	<p>40 <i>CFR</i> 268.44 OAC 3745-270-44</p>
	<p><i>NOTE:</i> Variance approval will be granted through the DFF&amp;O document approval process and included in the appropriate DFF&amp;O document.</p>		

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Disposal of treated hazardous debris	Debris treated by one of the specified extraction or destruction technologies on Table 1 of this section and which no longer exhibits a characteristic is not a hazardous waste and need not be managed in RCRA subtitle C facility. Hazardous debris contaminated with listed waste that is treated by an immobilization technology must be managed in a RCRA subtitle C facility.	Treated debris contaminated with RCRA-listed or characteristic waste— <b>applicable</b>	40 <i>CFR</i> 268.45(c) <i>OAC</i> 3745-270-45(C)
Disposal of hazardous debris treatment residues	Except as provided in 268.45(d)(2) and (d)(4) [ <i>OAC</i> 3745-270-45(D)(2) and (D)(4)], treatment residues must be separated from the treated debris using simple physical or mechanical means, and such residues are subject to the waste-specific treatment standards for the waste contaminating the debris. Layers of debris removed by spalling are hazardous debris that remains subject to treatment standards.	Residues from the treatment of hazardous debris— <b>applicable</b>	40 <i>CFR</i> 268.45(d)(1) – (5) <i>OAC</i> 3745-270-45(D)(1) – (5)
Prohibition of dilution to meet LDRs	Except as provided under 40 <i>CFR</i> 268.3(b) [ <i>OAC</i> 3745-270-03(B)], must not in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with land disposal restriction levels.	Land disposal, as defined in 40 <i>CFR</i> 268.2 ( <i>OAC</i> 3745-270-02), of RCRA-restricted hazardous soils— <b>applicable</b>	40 <i>CFR</i> 268.3(a) <i>OAC</i> 3745-270-03(A)
Pretreatment standards for discharges to a permitted wastewater treatment unit	Pollutants introduced to POTWs shall not pass through POTWs or interfere with the operation or performance of the POTW. Substances listed in <i>OAC</i> 3745-3-04(B) shall not be introduced into a POTW.	Discharge of wastewater containing pollutants to a POTW— <b>relevant and appropriate</b>	<i>OAC</i> 3745-3-04
	Must notify POTW immediately of all discharges that could cause problems to the POTW, including any slug loading, in accordance with <i>OAC</i> 3745-3-05.		<i>OAC</i> 3745-3-05
	Industrial users are subject to national categorical pretreatment standards under 40 <i>CFR</i> 403.6 and to the general requirements listed in <i>OAC</i> 3745-3-09 regarding the interpretation and application of pretreatment standards.		<i>OAC</i> 3745-3-09



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Disposal of wastewaters containing RCRA hazardous constituents in a CWA wastewater treatment unit	Disposal is not prohibited if the wastes are managed in a treatment system which subsequently discharges to waters of the U.S. under the CWA unless the wastes are subject to a specified method of treatment other than DEACT in 40 <i>CFR</i> 268.40 ( <i>OAC</i> 3745-270-40) or are D003 reactive cyanide.	Disposal of RCRA-restricted hazardous wastes that are hazardous only because they exhibit a hazardous characteristic and are not otherwise prohibited under 40 <i>CFR</i> Part 268— <b>applicable</b>	40 <i>CFR</i> 268.1(c)(4)(i) <i>OAC</i> 3745-270-01(C)(4)
Disposal of wastewaters in a CWA wastewater treatment unit	No entity shall cause pollution or place or cause to be placed any sewage, sludge, sludge materials, industrial waste, or other wastes in a location where they cause pollution of any waters of the state.	Discharge of contaminants to waters of the state – <b>applicable</b>	RC 6111.04
	No person shall violate or fail to perform any duty imposed by sections 6111.01 to 6111.08 of the Revised Code or violate any order, rule, or term or condition of a permit issued or adopted by the director of environmental protection pursuant to those sections.		RC 6111.07
Treatment and disposal of ignitable, reactive, or incompatible RCRA wastes	Must take precautions to prevent accidental ignition or reaction of waste, and waste must be separated and protected from sources of ignition or reaction.	Operation of a RCRA facility that treats or stores ignitable, reactive, or incompatible wastes— <b>applicable</b>	40 <i>CFR</i> 264.17(a) <i>OAC</i> 3745-54-17(A)
	<p>Must take precautions to prevent reactions that:</p> <ul style="list-style-type: none"> <li>• Generate extreme heat, pressure, fire or explosion, or violent reactions.</li> <li>• Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment.</li> <li>• Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions.</li> <li>• Damage the structural integrity of the device or facility.</li> <li>• Through other like means threaten human health or the environment.</li> </ul>		40 <i>CFR</i> 264.17(b) <i>OAC</i> 3745-54-17(B)

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**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Disposal of solid wastes	Except as provided in paragraph (D) of <i>OAC 3745-27-02</i> , no person shall establish or modify a solid waste disposal facility without meeting the substantive criteria as follows:	Management and disposal of solid waste— <b>applicable</b>	<i>OAC 3745-27-02(A)</i>
	Disposal of solid wastes shall only be by the following methods or combination thereof:		<i>OAC 3745-27-05(A)</i>
	• Disposal at a licensed sanitary landfill facility		<i>OAC 3745-27-05(A)(1)</i>
	• Incinerating at a licensed incinerator		<i>OAC 3745-27-05(A)(2)</i>
	• Composting at a licensed composting facility		<i>OAC 3745-27-05(A)(3)</i>
Prohibition on open dumping of solid wastes	• Alternative disposal methods either as engineered fill or land application, provided use will not create a nuisance or harm human health or the environment and is capable of complying with other applicable laws.		<i>OAC 3745-27-05(A)(4)</i>
	Temporary storage of putrescible solid wastes in excess of seven days, or temporary storage of any solid wastes where such storage causes a nuisance or health hazard shall be considered open dumping.	Temporary storage of solid waste prior to collection for disposal or transfer— <b>applicable</b>	<i>OAC 3745-27-03(A)(2)</i>
Treatment of LLW	No person shall conduct, permit, or allow open dumping. In the event that open dumping is or has occurred, person(s) responsible shall promptly remove and dispose or otherwise manage the solid waste and shall submit verification that the waste has been properly managed.	Management and disposal of solid waste— <b>applicable</b>	<i>OAC 3745-27-05(C)</i>
	Waste treatment to provide more stable waste forms and to improve the long-term performance of a LLW disposal facility shall be implemented as necessary to meet performance objectives of the disposal facility.	Generation of LLW for disposal at a DOE LLW disposal facility— <b>TBC</b>	DOE M 435.1-1(IV)(O)
Disposal of solid LLW at DOE facilities	Shall meet waste acceptance requirements before it is transferred to the receiving facility.	Generation of LLW for disposal at a DOE facility— <b>TBC</b>	DOE M 435.1-1(IV)(J)(2)
Disposal of refrigeration equipment	With the exception of the substitutes in the end uses listed in 40 <i>CFR</i> 82.154(a)(1)(i) – (vi), no person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the environment any refrigerant or substitute from such appliances.	Appliances that contain Class I or II substances used as a refrigerant— <b>applicable</b>	40 <i>CFR</i> 82.154(a)(1)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Disposal of refrigeration equipment (continued)	De minimis releases associated with good faith attempts to recycle or recover refrigerants are not subject to this prohibition.		40 <i>CFR</i> 82.154(a)(2)
	No person may dispose of such appliances, except for small appliances, MVACs, and MVAC-like appliances, without: <ul style="list-style-type: none"> <li>• Observing the required practices set forth in 40 <i>CFR</i> 82.156, and</li> <li>• Using equipment that is certified for that type of appliance pursuant to 40 <i>CFR</i> 82.158.</li> </ul>		40 <i>CFR</i> 82.154(b)
Disposal of asbestos-containing waste material (e.g., transite siding, pipe lagging, insulation, ceiling tiles)	All asbestos-containing waste material must be deposited as soon as practicable at a waste disposal site operated in accordance with Section 61.154 [ <i>OAC</i> 3745-20-06] or a site that converts RACM and asbestos-containing waste material into nonasbestos (asbestos free) material according to the provisions of 40 <i>CFR</i> 61.155 [ <i>OAC</i> 3745-20-13].	Removal and disposal of RACM except Category I nonfriable asbestos-containing material— <b>applicable</b>	40 <i>CFR</i> 61.150(b)(1) and (2) <i>OAC</i> 3745-20-05(A)
	May use an alternative emission control and waste treatment method that will control asbestos emissions equivalent to currently required methods, the alternative method is suitable for the intended application, and the alternative method will not violate other regulations and will not result in increased water or land pollution or occupational hazards.		40 <i>CFR</i> 61.150(a)(4) <i>OAC</i> 3745-20-05(B)(4)
Exclusions for disposal or reuse of construction and demolition debris, or “clean hard fill” [as defined in <i>OAC</i> 3745-400-01(E)]	Construction and demolition debris facility requirements do not apply to construction and demolition debris or clean hard fill used in one or more of the following ways: <ul style="list-style-type: none"> <li>• Any construction site where construction debris and trees and brush removed in clearing the construction site are used as fill material on the site where the materials are generated or removed;</li> <li>• Any site where clean hard fill is used, either alone or in conjunction with clean soil, sand, gravel, or other clean aggregates, in legitimate fill operations;</li> <li>• Any site where debris is not disposed, such as where debris is reused or recycled in a beneficial manner, or stored for a temporary period remaining unchanged and retrievable.</li> </ul>	Use of construction and demolition debris or clean hard fill at a site— <b>applicable</b>	<i>OAC</i> 3745-400-03



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Performance-based disposal of PCB remediation waste	Shall be disposed according to 40 <i>CFR</i> 761.60(a) or (e), or decontaminated in accordance with 40 <i>CFR</i> 761.79.	Disposal of liquid PCB remediation waste— <b>applicable</b>	40 <i>CFR</i> 761.61(b)(1)
	May dispose by one of the following methods:	Disposal of nonliquid PCB remediation waste (as defined in 40 <i>CFR</i> 761.3)— <b>applicable</b>	40 <i>CFR</i> 761.61(b)(2) 40 <i>CFR</i> 761.61(b)(2)(i)
	• In a high-temperature incinerator under 40 <i>CFR</i> 761.70(b);		
	• By an alternate disposal method under 40 <i>CFR</i> 761.60(e);		
	• In a chemical waste landfill under 40 <i>CFR</i> 761.75;		
Risk-based disposal of PCB remediation waste	• In a facility under 40 <i>CFR</i> 761.77; or		
	• Through decontamination in accordance with 40 <i>CFR</i> 761.79.		40 <i>CFR</i> 761.61(b)(2)(ii)
Risk-based disposal of PCB remediation waste	May dispose of in a manner other than prescribed in 40 <i>CFR</i> 761.61(a) or (b) if the method will not pose an unreasonable risk of injury to health or the environment.	Disposal of PCB remediation waste— <b>applicable</b>	40 <i>CFR</i> 761.61(c)
Disposal of PCB decontamination waste and residues	Shall be disposed of at their existing PCB concentration unless otherwise specified in 40 <i>CFR</i> 761.79(g).	PCB decontamination waste and residues for disposal— <b>applicable</b>	40 <i>CFR</i> 761.79(g)
Disposal of PCB liquids (e.g., from drained electrical equipment)	Must be disposed of in an incinerator that complies with 40 <i>CFR</i> 761.70, except:	PCB liquids at concentrations ≥ 50 ppm— <b>applicable</b>	40 <i>CFR</i> 761.60(a)
	For mineral oil dielectric fluid, may be disposed in a high efficiency boiler according to 40 <i>CFR</i> 761.71(a).		40 <i>CFR</i> 761.60(a)(1)
	For liquids other than mineral oil dielectric fluid, may be disposed in a high efficiency boiler according to 40 <i>CFR</i> 761.71(b).		40 <i>CFR</i> 761.60(a)(2)
Disposal of PCB-contaminated precipitation, condensation, or leachate	May be disposed in a chemical waste landfill that complies with 40 <i>CFR</i> 761.75 if:	PCB liquids at concentrations ≥ 50 ppm from incidental sources and associated with PCB articles or non-liquid PCB wastes— <b>applicable</b>	40 <i>CFR</i> 761.60(a)(3) 40 <i>CFR</i> 761.60(a)(3)(i)
	• Disposal does not violate 40 <i>CFR</i> 268.32(a) or 268.42(a)(1); and		
	• Liquids do not exceed 500 ppm and are not ignitable waste as described in 40 <i>CFR</i> 761.75(b)(8)(iii).		40 <i>CFR</i> 761.60(a)(3)(ii)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Disposal of PCB transformers	<p>Shall be disposed of in either:</p> <ul style="list-style-type: none"> <li>• An incinerator that complies with 40 <i>CFR</i> 761.70, or</li> <li>• A chemical waste landfill that is compliant with 40 <i>CFR</i> 761.75 provided all free flowing liquid is removed from the transformer, the transformer is filled with a solvent, the transformer is allowed to stand for at least 18 continuous hours, and then the solvent is thoroughly removed.</li> </ul>	PCB-contaminated electrical equipment (including transformers that contain PCBs at concentrations of $\geq 50$ ppm and $< 500$ ppm in the contaminating fluid) as defined in 40 <i>CFR</i> 761.3— <b>applicable</b>	<p>40 <i>CFR</i> 761.60(b)(1)</p> <p>40 <i>CFR</i> 761.60(b)(1)(i)(A)</p> <p>40 <i>CFR</i> 761.60(b)(1)(i)(B)</p>
Performance-based disposal of PCB bulk product waste	<p>May dispose of by one of the following:</p> <ul style="list-style-type: none"> <li>• In an incinerator under Section 761.70,</li> <li>• In a chemical waste landfill under Section 761.75,</li> <li>• In a hazardous waste landfill under Section 3004 or Section 3006 of RCRA,</li> <li>• Under alternate disposal under Section 761.60(e),</li> <li>• In accordance with decontamination provisions of Section 761.79,</li> <li>• In accordance with thermal decontamination provisions of Section 761.79(e)(6) for metal surfaces in contact with PCBs.</li> </ul>	Disposal of PCB bulk product waste as defined in 40 <i>CFR</i> 761.3— <b>applicable</b>	<p>40 <i>CFR</i> 761.62(a)</p> <p>40 <i>CFR</i> 761.62(a)(1)</p> <p>40 <i>CFR</i> 761.62(a)(2)</p> <p>40 <i>CFR</i> 761.62(a)(3)</p> <p>40 <i>CFR</i> 761.62(a)(4)</p> <p>40 <i>CFR</i> 761.62(a)(5)</p> <p>40 <i>CFR</i> 761.62(a)(6)</p>
Risk-based disposal of PCB bulk product waste	May dispose of in a manner other than that prescribed in 40 <i>CFR</i> 761.62(a) if the method will not pose an unreasonable risk of injury to health or the environment.	Disposal of PCB bulk product waste as defined in 40 <i>CFR</i> 761.3— <b>applicable</b>	40 <i>CFR</i> 761.62(c)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Disposal of PCB bulk product waste in solid waste landfill	May dispose of the following in a municipal or non-municipal non-hazardous waste landfill:	Disposal of non-liquid PCB bulk product waste listed in 40 <i>CFR</i> 761.62(b)(1)— <b>applicable</b>	40 <i>CFR</i> 761.62(b)(1)
	<ul style="list-style-type: none"> <li>Plastics (such as plastic insulation from wire or cable; radio, television and computer casings; vehicle parts; or furniture laminates); preformed or molded rubber parts and components; applied dried paints, varnishes, waxes or other similar coatings or sealants; caulking; Galbestos; non-liquid building demolition debris; or non-liquid PCB bulk product waste from the shredding of automobiles or household appliances from which PCB small capacitors have been removed (shredder fluff), and</li> </ul>		40 <i>CFR</i> 761.62(b)(1)(i)
	<ul style="list-style-type: none"> <li>Other PCB bulk product waste, sampled in accordance with the protocols set out in subpart R of 40 <i>CFR</i> Part 761, that leaches PCBs at &lt; 10 µg/L of water measured using a procedure used to simulate leachate generation.</li> </ul>	40 <i>CFR</i> 761.62(b)(1)(ii)	
Disposal of fluorescent light ballasts	May dispose of in a municipal or non-municipal nonhazardous waste landfill if:	PCB bulk product waste not meeting conditions of 40 <i>CFR</i> 761.62(b)(1) (e.g., paper/felt gaskets contaminated by liquid PCBs)— <b>applicable</b>	40 <i>CFR</i> 761.62(b)(2)
	<ul style="list-style-type: none"> <li>The PCB bulk product waste is segregated from organic liquids disposed of in the landfill, and</li> </ul>		40 <i>CFR</i> 761.62(b)(2)(i)
	<ul style="list-style-type: none"> <li>Leachate is collected from the landfill and monitored for PCBs.</li> </ul>		40 <i>CFR</i> 761.62(b)(2)(ii)
Disposal of fluorescent light ballasts	Must be disposed of in a TSCA disposal facility as bulk product waste under 40 <i>CFR</i> 761.62 or in accordance with the decontamination provisions of 40 <i>CFR</i> 761.79.	Generation for disposal of fluorescent light ballasts containing PCBs in the potting material— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(6)(iii)
Disposal of PCB-contaminated electrical equipment (except capacitors)	Must remove all free-flowing liquid from the electrical equipment and dispose of the removed liquid in accordance with 40 <i>CFR</i> 761.60(a), and	Generation of PCB-contaminated electrical equipment (as defined in 40 <i>CFR</i> 761.3) for disposal— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(4)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Disposal of PCB-contaminated electrical equipment (except capacitors) (continued)	Dispose of by one of the following methods: <ul style="list-style-type: none"> <li>• In a facility managed as a municipal solid waste or non-municipal non-hazardous waste facility;</li> <li>• In an industrial furnace operating in compliance with 40 <i>CFR</i> 761.72; or</li> <li>• In a disposal facility under 40 <i>CFR</i> 761.60.</li> </ul>	Drained PCB-contaminated electrical equipment, including any residual liquids— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(4)(i)
Disposal of PCB capacitors	Any person must assume that a capacitor manufactured prior to July 2, 1979, whose PCB concentration is not established, contains $\geq 500$ ppm PCBs. If the date of manufacture is unknown, any person must assume the capacitor contains $\geq 500$ ppm PCBs.	Generation of PCB capacitors with $\geq 500$ ppm PCBs for disposal— <b>applicable</b>	40 <i>CFR</i> 761.2(a)(4)
	Shall comply with all requirements of 40 <i>CFR</i> 761.60 unless it is known from label or nameplate information, manufacturer’s literature, or chemical analysis that capacitor does not contain PCBs.		40 <i>CFR</i> 761.60(b)(2)(i)
	Shall dispose of in accordance with either of the following: <ul style="list-style-type: none"> <li>• Disposal in an incinerator that complies with 40 <i>CFR</i> 761.70; or</li> <li>• Disposal in a chemical waste landfill that complies with 40 <i>CFR</i> 761.75.</li> </ul>	Generation of PCB capacitors with $\geq 500$ ppm PCBs for disposal— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(2)(iii)
	Shall dispose of in one of the following disposal facilities approved under 40 <i>CFR</i> 761.60: <ul style="list-style-type: none"> <li>• Incinerator under 40 <i>CFR</i> 761.70;</li> <li>• Chemical waste landfill under 40 <i>CFR</i> 761.75;</li> <li>• High efficiency boiler under 40 <i>CFR</i> 761.71; or</li> <li>• Scrap metal recovery oven or smelter under 40 <i>CFR</i> 761.72.</li> </ul>	Disposal of large capacitors that contain $\geq 50$ ppm but $< 500$ ppm PCBs — <b>applicable</b>	40 <i>CFR</i> 761.60(b)(4)(ii)
	May dispose of in municipal solid waste landfill.	Generation of PCB small capacitors (as defined in 40 <i>CFR</i> 761.3) for disposal— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(2)(ii)



**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Disposal of PCB-contaminated articles	Must remove all free-flowing liquid from the article, disposing of the liquid in compliance with the requirements of 40 <i>CFR</i> 761.60(a)(2) or (a)(3), and	Generation of PCB-contaminated articles (as defined in 40 <i>CFR</i> 761.3) for disposal— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(6)(ii)
	Dispose by one of the following methods: <ul style="list-style-type: none"> <li>• In accordance with the decontamination provisions at 40 <i>CFR</i> 761.79;</li> <li>• In a facility managed as a municipal solid waste or non-municipal nonhazardous waste facility;</li> <li>• In an industrial furnace operating in compliance with 40 <i>CFR</i> 761.72; or</li> <li>• In a disposal facility under 40 <i>CFR</i> 761.60.</li> </ul>	Disposal of PCB-contaminated articles with no free-flowing liquid— <b>applicable</b>	40 <i>CFR</i> 761.60(b)(6)(ii) (A) thru (D)
<b>Closure</b>			
Closure performance standard for RCRA hazardous waste management units	Must close the facility in a manner that:	Closure of a RCRA hazardous waste management unit— <b>applicable</b>	40 <i>CFR</i> 264.111(a) <i>OAC</i> 3745-55-11(A)
	<ul style="list-style-type: none"> <li>• Minimizes the need for further maintenance; and</li> <li>• Controls, minimizes or eliminates, to the extent necessary to protect human health and environment, post-closure escape of hazardous waste, hazardous constituents, contaminated run off or hazardous waste decomposition products to ground or surface waters or to the atmosphere.</li> </ul>		40 <i>CFR</i> 264.111(b) <i>OAC</i> 3745-55-11(B)
	<ul style="list-style-type: none"> <li>• Complies with the substantive closure requirements of 40 <i>CFR</i> 264 [OAC 3745-54 to 3745-57 and 3745-205] for the particular type of facility, including but not limited to the requirements of Sections 264.178 (container storage area) [OAC 3745-55-78], 264.197 (tanks) [OAC 3745-55-97], 264.310 (landfills) [OAC 3745-57-10], and 264.554 (remediation waste piles) [OAC 3745-56-58].</li> </ul>		40 <i>CFR</i> 264.111(c) <i>OAC</i> 3745-55-11(C)
	During closure periods, all contaminated equipment, structures, and soils must be properly disposed or decontaminated.		40 <i>CFR</i> 264.114 <i>OAC</i> 3745-55-14

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Postclosure care of RCRA hazardous waste management unit	Postclosure care in accordance with the substantive requirements of <i>OAC 3745-55-17 (A)(1)</i> must begin after closure and continue for at least 30 years after that date. The Director may shorten or extend the postclosure period as indicated to protect human health and the environment.	Closure of a RCRA hazardous waste disposal unit— <b>applicable</b>	40 <i>CFR</i> 264.117(a)(1) and (2) <i>OAC 3745-55-17(A)</i> (1) and (2)
Closure of a RCRA container storage unit	Must remove all hazardous waste and residues from containment system. Remaining containers, liners, bases and soil containing or contaminated with hazardous waste or residues must be decontaminated or removed.	Closure of a RCRA hazardous waste container storage area— <b>applicable</b>	40 <i>CFR</i> 264.178 <i>OAC 3745-55-78</i>
Closure of a RCRA remediation waste staging pile	Must be closed by removing or decontaminating all remediation waste, contaminated containment system components, and structures and equipment contaminated with waste and leachate.	Closure of a remediation waste staging pile located in a previously contaminated area— <b>applicable</b>	40 <i>CFR</i> 264.554(j)(1) <i>OAC 3745-57-74(J)</i> (1)
	Must decontaminate contaminated subsoils in a manner that will protect human health and the environment.	Closure of a remediation waste staging pile located in a previously contaminated area— <b>applicable</b>	40 <i>CFR</i> 264.554(j)(2) <i>OAC 3745-57-74(J)</i> (2)
	Must be closed according to substantive requirements in 40 <i>CFR</i> 264.258(a) and 264.111 or 265.258(a) and 265.111 [ <i>OAC 3745-56-58(A)</i> and 3745-55-11 or 3745-67-58 and 3745-66-11].	Closure of a remediation waste staging pile located in an uncontaminated area— <b>applicable</b>	40 <i>CFR</i> 264.554(k) <i>OAC 3745-57-74(K)</i>
Closure of RCRA hazardous waste tanks	At closure, remove all hazardous waste and hazardous waste residues from tanks, discharge control equipment, and discharge confinement structures.	Management of RCRA hazardous waste in tanks— <b>applicable</b>	40 <i>CFR</i> 264.197(a) <i>OAC 3745-55-97(A)</i>
	If all contaminated contents cannot be removed, must consider the tank system a landfill and close the facility and perform postclosure care in accordance with the landfill closure requirements of 40 <i>CFR</i> 264.310 ( <i>OAC 3745-57-10</i> ).		40 <i>CFR</i> 264.197(b) <i>OAC 3745-55-97(B)</i>
Closure of TSCA storage facility (i.e., storage areas established under this action)	Must close in a manner that eliminates the potential for post-closure releases of PCBs that may present an unreasonable risk to human health or the environment.	Closure of a TSCA storage facility— <b>applicable</b>	40 <i>CFR</i> 761.65(e)(1)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

<b>Action</b>	<b>Requirements<sup>a</sup></b>	<b>Prerequisite</b>	<b>Citation</b>
Closure of TSCA storage facility (i.e., storage areas established under this action) (continued)	Must remove or decontaminate PCB waste residues and contaminated containment system components, equipment, structures, and soils during closure in accordance with the levels specified in the PCB Spills Cleanup Policy in subpart G of 40 <i>CFR</i> 761.		40 <i>CFR</i> 761.65(e)(1)(iv)
	A TSCA/RCRA storage facility closed under RCRA is exempt from the TSCA closure requirements of 40 <i>CFR</i> 761.65(e).	Closure of TSCA/RCRA storage facility— <b>applicable</b>	40 <i>CFR</i> 761.65(e)(3)
<b>Transportation<sup>b</sup></b>			
Transportation of hazardous waste on site	The generator manifesting requirements of 40 <i>CFR</i> 262.20 to 262.32(b) [OAC 3745-52-20 to 3745-52-23 and 3745-52-32(B)] do not apply.  Generator or transporter must comply with the requirements set forth in 40 <i>CFR</i> 263.30 and 263.31 [OAC 3745-53-30 and 3745-53-31] in the event of a discharge of hazardous waste on a private or public right-of-way.	Transportation of hazardous wastes on a public or private right-of-way within or along the border of contiguous property under the control of the same person, even if such contiguous property is divided by public or private right-of-way— <b>applicable</b>	40 <i>CFR</i> 262.20(f) OAC 3745-52-20(F)
Transportation of hazardous materials on site	Must meet the substantive requirements of 49 <i>CFR</i> Parts 171–174, 177, and 178 or the site- or facility-specific Transportation Safety Document [i.e., <i>Transportation Safety Document for the On-Site Transfer of Hazardous Material at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio</i> , LPP-0021/R3].	Transport of hazardous materials on the PORTS site— <b>TBC</b>	DOE Order 460.1C(4)(b)
Transportation of radioactive waste	Shall be packed and transported in accordance with the substantive requirements of DOE Order 460.1C ( <i>Packaging and Transportation Safety</i> ) and DOE Order 460.2A ( <i>Departmental Materials Transportation and Packaging Management</i> ).	Preparation of shipment of radioactive waste— <b>TBC</b>	DOE M 435.1-1(I)(1) (E)(11)
	To the extent practicable, the volume of waste and number of shipments shall be minimized.		DOE M 435.1-1(III) (L)(2) DOE M 435.1-1(IV) (L)(2)

<sup>b</sup>Off-site transportation, by definition, is not an on-site response action and is subject to all substantive, procedural, and administrative requirements of all legally applicable laws but not to any requirements that might be relevant and appropriate under the ARARs process.

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Transportation of PCB wastes off site	Must comply with the manifesting provisions at 40 <i>CFR</i> 761.207 through 218.	Relinquishment of control over PCB wastes by transporting or offering for transport— <b>applicable</b>	40 <i>CFR</i> 761.207(a)
Transportation of hazardous waste off site	Must comply with the generator requirements of 40 <i>CFR</i> 262.20 to 262.23 [ <i>OAC</i> 3745-52-20 to 3745-52-23] for manifesting, Section 262.30 [ <i>OAC</i> 3745-52-30] for packaging, Section 262.31 [ <i>OAC</i> 3745-52-31] for labeling, Section 262.32 [ <i>OAC</i> 3745-52-32] for marking, Section 262.33 [ <i>OAC</i> 3745-52-33] for placarding, Section 262.40 and 262.41(a) [ <i>OAC</i> 3745-52-40 and 3745-52-41(A)] for record keeping requirements, and Section 262.12 [ <i>OAC</i> 3745-52-12] to obtain EPA ID number.	Preparation of RCRA hazardous waste for transport off site— <b>applicable</b>	40 <i>CFR</i> 262.10(h) <i>OAC</i> 3745-52-10(H) 40 <i>CFR</i> 262.20 to .23 <i>OAC</i> 3745-52-20 to -23 40 <i>CFR</i> 262.30 to .33 <i>OAC</i> 3745-52-30 to -33
Transportation of universal waste off site	Off-site shipments of universal waste by a large quantity handler of universal waste shall be made in accordance with 40 <i>CFR</i> 273.38 [ <i>OAC</i> 3745-273-38].  Off-site shipments to a foreign destination must comply with requirements applicable to a primary exporter in <i>OAC</i> 3745-52-10, 3745-52-53, 3745-52-56 and 3745-52-57 and export waste only upon consent of the receiving country and in conformance with the EPA “Acknowledgement of Consent” as defined in <i>OAC</i> 3745-52-50 to 3745-52-57. A copy of the consent must be provided to the transporter.	Preparation of universal waste for transport off site— <b>applicable</b>	40 <i>CFR</i> 273.38(c) <i>OAC</i> 3745-273-38(C)  40 <i>CFR</i> 273.40 <i>OAC</i> 3745-273.40
Transportation of used oil off site	Except as provided in paragraphs (a) to (c) of 40 <i>CFR</i> 279.24 [ <i>OAC</i> 3745-279-24(A) to (C)], generators must ensure that their used oil is transported by transporters who have obtained EPA ID numbers.	Preparation of used oil for transport off site— <b>applicable</b>	40 <i>CFR</i> 279.24 <i>OAC</i> 3745-279-24
Transportation of asbestos-containing waste materials off site	For asbestos-containing waste material to be transported off the facility site, label containers or wrapped materials with the name of the waste generator and location at which the waste was generated.  Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of 40 <i>CFR</i> 61.149(d)(1)(i), (ii), and (iii).	Preparation for transport of asbestos-containing waste materials off site— <b>applicable</b>	40 <i>CFR</i> 61.150(a)(1)(v) <i>OAC</i> 3745-20-05(C)(1)  40 <i>CFR</i> 61.150(c) <i>OAC</i> 3745-20-05(E)

**Table A.2. Action-specific ARARs for the Process Buildings and Complex Facilities D&D at PORTS, Piketon, Ohio  
(Continued)**

Action	Requirements <sup>a</sup>	Prerequisite	Citation
Transportation of hazardous materials off site	Any person who, under contract with a department or agency of the Federal government, transports “in commerce,” or causes to be transported or shipped, a hazardous material, shall be subject to and must comply with all applicable provisions of the HMTA and HMR at 49 CFR 171 – 180 related to marking, labeling, placarding, etc.	Preparation for transport or shipment “in commerce” of a hazardous material—applicable	49 CFR 171.1(c)

ACM = asbestos-containing material

ALARA = as low as reasonably achievable

ARAR = applicable or relevant and appropriate requirement

CFR = Code of Federal Regulations

CMBST = combustion

CWA = Clean Water Act of 1972

DEACT = deactivation

DFE&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

DOE M = Radioactive Waste Management Manual

DOT = U.S. Department of Transportation

EDE = effective dose equivalent

EPA = U.S. Environmental Protection Agency

HMR = Hazardous Materials Regulations

HMTA = Hazardous Materials Transportation Act of 1975

ID = identification

LDR = land disposal restriction

LLW = low-level (radioactive) waste

LPP = LATA/Parallax Portsmouth, LLC

MVAC = motor vehicle air conditioning

NACE = National Association of Corrosion Engineers

NPDES = National Pollutant Discharge Elimination System

OAC = Ohio Administrative Code

Ohio EPA = Ohio Environmental Protection Agency

PCB = polychlorinated biphenyl

POLYM = polymerization

PORTS = Portsmouth Gaseous Diffusion Plant

POTW = publicly owned treatment works

RACM = regulated asbestos-containing material

RC = Ohio Revised Code

RCRA = Resource Conservation and Recovery Act of 1976

RORGS = recovery of organics

TBC = to-be-considered

TSCA = Toxic Substances Control Act of 1976

UST = underground storage tank

UTS = universal treatment standards

WAC = waste acceptance criteria

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