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QUESTIONS

Below are some common questions and answers on the cleanup program at the Portsmouth Gaseous Diffusion Plant.

Decontamination and Decommissioning of the Gaseous Diffusion Plant

1. What is being cleaned up at the site?

Cleanup at the site only involves the gaseous diffusion plant and its supporting operations. The American Centrifuge Project, operated by United States Enrichment Corporation, and the B&W Conversion Services project to convert more than 700,000 metric tons of DUF6 (depleted uranium hexafluoride) into depleted uranium oxide, are not part of the cleanup program.

2. Why is the Department of Energy tearing down the plant and cleaning up the site?

The gaseous diffusion plant was built between 1952 and 1956 during the height of the Cold War to enrich uranium for national defense purposes (as part of the nuclear weapons complex) and later for producing low enriched uranium for use in commercial nuclear power reactors to produce electricity. In 1989, agreements were signed by the Department of Energy (DOE), Ohio and U.S. EPA that initiated the environmental cleanup program. After the uranium enrichment plant operated for nearly 50 years, production was shut down in 2001. DOE, as the owner of the facility, kept the plant in "Cold Standby" until 2005, maintaining an operational mode should it need restarted. In 2005, the DOE's Office of Environmental Management, that is responsible for cleanup of the former defense nuclear production sites, made the decision to place the plant in "Cold Shutdown" to permanently shut it down as it was no longer needed. At that time, workers began to deactivate the equipment and prepare for the eventual Decontamination & Decommissioning (D&D) or tear-down of the former uranium enrichment facilities. The gaseous diffusion technology that was used in these old uranium enrichment buildings required a huge amount of electrical power, making it much less economical and efficient than the newer centrifuge technology. DOE awarded a contract in August 2010 to Fluor-B&W Portsmouth LLC to perform the D&D and site cleanup of the gaseous diffusion plant.

3. Will the entire plant be torn down?

No. The centrifuge facilities DOE has leased to USEC Inc. for the American Centrifuge Plant and DOE's Depleted Uranium Hexafluoride (DUF6) Conversion Plant operated by B&W Conversion Services LLC on the federal property will not be impacted by the D&D of the former uranium enrichment plant.

4. What is the schedule to complete the demolition of the old uranium enrichment buildings?

For planning purposes, DOE is targeting completion of D&D and soil cleanup by 2024. The actual schedule, however, will be dependent on the federal budget and annual funds appropriated by Congress.

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5. **How many people will be employed during the D&D project?**
The Department of Energy and Fluor-B&W are sensitive to the importance of jobs this plant provides to the region. The site currently employs approximately 2,600 total employees with the majority (about 2,000) working on the D&D project. However, D&D employment will be contingent upon budget appropriations from Congress.

6. **What will happen to the site?**
The final decisions have not yet been made on what the site will be after completion of the D&D and cleanup project. The public will be actively involved in the discussions to help identify the appropriate future uses for the plant site. The local elected officials, Site Specific Advisory Board and the community reuse organization (Southern Ohio Diversification Initiative, SODI) have provided input and recommendations to DOE on redevelopment of the site. DOE has also initiated a process by providing a grant to the Ohio University Voinovich School of Public Affairs to work with the communities in the four surrounding counties to obtain the public's visions for the future of the site. Several meetings have already been held by Ohio University and much interest has been focused on industrial redevelopment of the site. This process with Ohio University is called the "PORTSfuture Project" and further information is available online at: www.portsfuture.com.

Waste Disposition

1. **What are you going to do with all the materials when you tear down the buildings?**
The scope of the D&D project involves more than 400 buildings and facilities, including the three massive process buildings that occupy almost 100 acres under roof. Deciding what to do with this material is an important step in the cleanup process that involves input from the public. Public meetings are being held to discuss the waste disposition options: shipping the materials off-site for disposal or a combination of on- and off-site disposal of the materials. A joint decision on how to dispose of the materials will be made by the DOE and approved by the Ohio Environmental Protection Agency. This decision is expected in the fall of 2012 and cannot be made without prior public input. The formal public comment period is planned for summer 2012.

2. **What are the disposal options?**
Under requirements of the regulatory documentation, the disposal options being evaluated include: 1) No action (this is required to be considered); 2) ship all materials to off-site disposal facilities; or 3) ship materials with highest contamination off-site and dispose of lower contaminated materials in an engineered on-site disposal facility. If an element of disposal includes the on-site option, it will be configured so as not to hinder redevelopment of the main process area of the site. More details on the size of a possible disposal cell are contained in question 12 below.

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3. **So if there is on-site disposal, waste would still be shipped off site?**
Yes. The materials that are highly contaminated would be shipped off site. Only lower contaminated materials, mostly building rubble and some of the less contaminated process equipment and soil would remain on site.

4. **How much waste will be generated during demolition of the plant?**
Waste volumes have been estimated primarily based on past knowledge at the site, lessons learned from other D&D projects at similar DOE sites, and engineering studies. The current estimates range from a low of 1.7 million cubic yards to a high-end estimate of 2.9 million cubic yards. The majority of the materials would be concrete waste, debris, process gas equipment, and soils. About 110,000 cubic yards are assumed to be metals with a high potential for recycling.

5. **How many trucks or rail cars would be required to ship all the materials off site? How is the material packaged?**
Most materials sent off site would be shipped by bulk in rail gondola cars or on trucks.
The small portion remaining would have to be packaged. The exact number of trucks or trains required to ship all the materials off site continues to be calculated as part of the Remedial Investigation/Feasibility Study (RI/FS) process and should be available for a detailed comparison of the on- and off-site disposal options in the spring of 2012.

6. **How many jobs would be required for the two different disposal options?**
This data continues to be calculated as part of the Remedial Investigation/Feasibility Study (RI/FS) process and should be available for a detailed comparison of the on- and off-site disposal options in the spring of 2012.

7. **There has been talk of an On-site Disposal Cell (OSDC). What is an On-site Disposal Cell and has the decision already been made to build one?**
Fluor-B&W is required under its contract with DOE to gather information for the best choice for disposing of the materials from the cleanup and present all the information to the DOE and public to consider. Since on-site disposal is one of the options under evaluation, extensive work is underway to identify potential locations with the best geology for a specially constructed disposal facility called an On-site Disposal Cell (OSDC), should on-site disposition be the selected alternative. An OSDC is a specially engineered disposal site with multiple layers of liners and soils and a leachate collection system designed to be protective over the long term. The required state of the art protective features of an OSDC are specified by the United States Environmental Protection Agency and Ohio Environmental Protection Agency in their regulations. The disposal facility is designed to consolidate demolition debris and rubble into a much smaller footprint. The final decision for where and how to dispose of site D&D materials has not been made at this time. A final decision will follow the formal public comment process planned for summer 2012.

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8. What is leachate?

Leachate is the drainage that is collected from inside the OSDC and is treated through a treatment facility. Wastewater from an OSDC, including leachate and storm water that contacts the waste, must be managed and treated appropriately to ensure surface water quality standards are not exceeded. Leachate comes from three sources: 1) drying of the material placed in the OSDC after it is removed from the exposure to the elements (e.g., rain); 2) water added to compact soil during construction of the OSDC; and 3) rain that fell during the time that the cell was open to receive materials.

9. How would an on-site disposal facility be designed to be protective?

Location would be based on geology where a deep layer of bedrock shale lies beneath the disposal site to protect the groundwater. The design itself would follow strict regulatory requirements. The materials would be largely debris, soils and concrete materials from the buildings. The radioactive materials that may be in the cell would be categorized as low-level. The chance for human exposure from anything placed in the facility would be very, very low. An OSDC would be surrounded by monitoring wells to continually sample the groundwater and ensure the cap is being protective.

10. If a disposal site is located at the plant, would waste be brought in from other places?

No. If an OSDC is selected as the waste disposal option, it would only accept materials from the cleanup at the plant. DOE has a legal agreement with Ohio EPA that prevents any waste materials being brought in from anywhere else. Ohio EPA oversees compliance with this agreement.

11. Where would a disposal facility be located?

The feasibility studies identified four potential locations, narrowed down from an initial 16 potential sites reviewed for an OSDC. A location in the northeastern most portion of the DOE property is considered to have the most suitable geology and hydrologic conditions. This site has been identified as a representative location for further technical study.

12. How large would the on-site disposal facility be?

Under current planning, if selected, an OSDC would be built over approximately 100-150 acres, about 1,500 ft by 2,400 ft in size. This configuration leaves more than 3,000 acres of the site available for other uses, including the 1,000 acre main production area.

13. If there is on-site disposal, wouldn't there still be waste which has to be shipped off site?

Yes. The on-site disposal option includes some off-site shipping. The most hazardous materials, which would not meet the technical criteria for on-site disposal, would be shipped off site to specialized disposal facilities in Utah or Nevada. DOE and Ohio EPA can also identify additional restrictions or prohibited items.

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14. How would an on-site disposal facility be monitored after DOE and its contractors are gone?
Environmental law (the Comprehensive Environmental Response, Compensation, and Liability Act or CERCLA) requires that cleanup actions meet federal standards, criteria, limitations, or more stringent state standards determined to be legally applicable or relevant and appropriate requirements called ARARs. An OSDC, if constructed, would be operated and closed within an approximate 10-year period. DOE would be required to operate the leachate collection system and monitor the site for many years after the D&D project is complete. Continued oversight by Ohio EPA would be required including reviews of site conditions every 5 years.

15. Have On-site Disposal Cells been constructed at other DOE site locations?
On-site Disposal Cells under CERCLA regulations have been constructed at six DOE sites, three of which are still operating. Operational on-site CERCLA disposal facilities are located in Oak Ridge, TN; Hanford, Washington; and Idaho Falls, ID. On-site CERLCA disposal facilities have been closed and are now under long-term monitoring in Fernald, OH; Weldon Springs, MO; and Monticello, UT. DOE also has active low-level waste disposal facilities in Savannah River, SC; Nevada Nuclear Security Site, NV; Hanford, WA; Los Alamos, NM; and Idaho Falls, ID. No incidents of exposure to people or the environment have been experienced to date at these on-site disposal facilities.

Environmental Cleanup

1. How contaminated is the site?
When the uranium enrichment process was started in the early 1950s at the site, some of the materials used at the time were not considered harmful. Over the years, further information became available and more stringent requirements were established by the Environmental Protection agencies, Occupational Safety and Health Administration (OSHA), and DOE. The use of trichloroethene, also called trichloroethylene, or TCE, an industrial degreasing solvent used at many industrial sites across the country including the local plant site, was banned by U.S. EPA in the late 1970s. The site's cleanup program has been ongoing since agreements were signed by DOE with Ohio and U.S. EPAs in 1989 and many cleanup actions have been completed. Five groundwater plumes (areas with groundwater contamination beneath the surface) have been identified at the site and all have active treatment programs in place. As the plant prepares for demolition of the process buildings, special requirements will be in place to address the radioactive contamination inside equipment and buildings, and in the soil under and around the buildings. Many of the structures have asbestos and PCB materials because of their age – asbestos was a common insulator and fire retardant material used in the 1950s. Soil samples are being collected now and will continue to be collected during 2012 to determine how much soil must be cleaned up.

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2. How long will it take to clean up all the contamination?
For planning purposes, DOE is targeting completion of D&D and soil cleanup by 2024. The remaining environmental cleanup actions will be implemented during the D&D Project over the next 10-15 years. Some of the groundwater monitoring will continue by DOE far beyond the D&D Project completion date under the oversight of the Ohio EPA. Groundwater cleanup may also continue beyond D&D completion.

3. Can the contaminated groundwater get into my drinking water?
DOE and Ohio EPA have worked tirelessly to prevent migration of the contaminated groundwater on site. DOE has installed a series of extraction wells and four pump and treatment facilities to remove TCE from the groundwater and limit the spread of contamination. More than 1,000 groundwater monitoring wells have been installed to investigate the site. The contamination (primarily the chemical solvent TCE) is limited to a shallow aquifer beneath the site that is not used for drinking water. The groundwater contamination is contained to the DOE property.

Decision Process

1. Do I really have a say in the decisions?
Public acceptance is one of nine criteria that DOE must consider in proposing a final solution for cleanup. Citizens rightfully expect that DOE will carefully consider and fairly evaluate concerns the community has voiced. It is not enough that DOE ask for and read public comments. Guidance states that it is DOE's responsibility to honestly listen to citizens, and genuinely take into account their concerns. It is DOE's responsibility to show citizens that their comments have been carefully and thoughtfully considered.

2. How do I provide my input?
Ongoing public input helps DOE incorporate community values as best as possible into its development and evaluation of cleanup alternatives before issuing a proposed plan. There are several ways to share your input or concerns with DOE before the formal public comment period. You can talk with site personnel at DOE's quarterly "Stay Informed" public meetings. Site experts are tracking questions and concerns they receive at the meeting and sharing them with management afterwards. You can also get on DOE's mailing list so you receive fact sheets requesting your input on specific topics of interest (Contact Deneen Revel of Fluor-B&W at 740-897-2609 to be added to the mailing list.) You can also call our question line at 888-603-7722 or email us at questions@fbportsmouth.com.

During the formal public comment period in summer 2012, DOE will hold a formal public hearing with a court reporter to explain the proposed plan to the public and receive official public comments for the record. Official fact sheets with comment pages will also be issued at this time to explain the proposal and receive public comments. DOE must consider and respond to these comments in its final Record of Decision submitted to Ohio EPA for approval.

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3. Who makes the final decisions?
The final decision will be made by DOE and the Ohio EPA, after consideration of all public comments.

4. When will these decisions be made?
The decision on the waste disposition is planned for the fall of 2012. A public review period will occur in early summer in which the public will be able to present their opinions on the disposal options. The Site Specific Advisory Board will also be evaluating the options and providing feedback. The DOE and Ohio EPA will take comments, feedback, and recommendations into consideration before determining the path forward in the fall of 2012.