Navigating a Year of Decisions in Piketon

Fluor-B&W Portsmouth's J. D. Chiou (right) discusses geological studies currently under way at the site with members of the Site-Specific Advisory Board.

Frank Miller, of Fluor-B&W Portsmouth, shows community members the transportation routes being considered for offsite shipment of hazardous wastes. The DOE is hosting quarterly public meetings to keep stakeholders informed about upcoming regulatory decisions regarding the path forward for the site.

In the next 12 to 15 months, all major decisions concerning the cleanup strategy at the Portsmouth Gaseous Diffusion Plant should be completed.

By Julie Doering
Photos by Alan Hembra

If cleaning up a former uranium processing facility involved nothing more than a wrecking ball and a bulldozer, the workload of the U.S. Department of Energy and its cleanup contractors would be significantly less complicated. Prior to the implementation of active demolition work, however, there is a monumental amount of investigation, feasibility studies, communication, and education that must be completed. At the DOE's Portsmouth Gaseous Diffusion Plant in Piketon, Ohio, the department is in the thick of managing the regulatory processes that, when complete, will provide the basis for all cleanup decisions at the site.

"Without exception, safety is always our top priority in everything we do," Vince Adams, DOE Portsmouth site manager, said. "Ensuring sound regulatory decision-making and compliant implementation is absolutely crucial to completing work safe-

Workers prepare to anchor a weather balloon at one of the locations being considered for a possible onsite disposal cell. The balloon provided a visual frame of reference for the potential height of the cell.

ly. You cannot overstate its importance to employees, the community, and the environment."

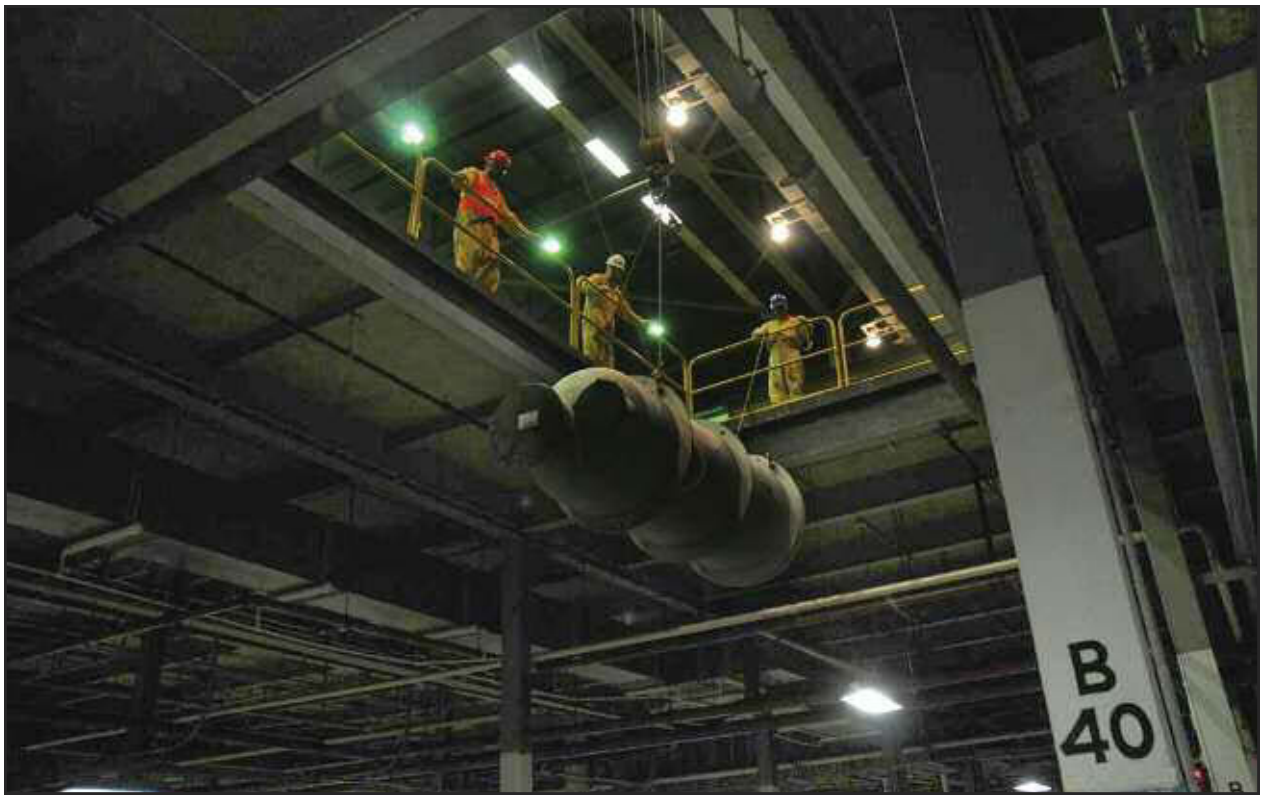
In the next 12 to 15 months, all major decisions concerning the cleanup strategy at the Portsmouth facility should be completed. The DOE will rely heavily on input from the public when making these decisions. "The decisions that will be made in the next year will determine the path forward for how we're going to be cleaning up this site," Adams said. "This sets the stage for how everything will unfold here and, ultimately, what the site will look like when the DOE turns it back over to the community."

Where History and Science Meet

To understand the path forward for the former gaseous diffusion plant, it's important to know its history. In addition to removing the radiological contamination, the DOE and its cleanup contractor, Fluor-B&W Portsmouth, must also address the environmental impacts of the chemicals used at the site during the production years.

When the uranium enrichment process was started in the early 1950s, some of the materials used were not considered harmful at the time. One such substance was trichloroethylene (TCE), an industrial degreasing solvent used at many industrial sites across the country. TCE was used at the site beginning in the 1950s and became the solvent of choice in the 1970s and early 1980s. As a result of increased awareness about its potential impacts to human health and the environment, bulk TCE was phased out in the late 1980s and early 1990s, after more than 30 years of use.

Dealing with the legacy of past site operations in a balanced and fiscally responsible way is a key component of environmental remediation. "Formulating a cleanup strategy can be an emotional process," noted Marc Jewett, director of Regulatory Planning for Fluor-B&W Portsmouth. "Providing the public with objective, science-based information is one of the most important steps in the



A Fluor-B&W Portsmouth team lowers a converter from the cell floor to the ground floor of a former process building. Equipment used to enrich uranium during the Cold War era and the latter half of the 20th century will be disassembled and removed before the buildings are demolished.

process. It's not good enough just to make a decision. We want to make sure that people have all of the information they need to make an informed decision."

To that end, the DOE and Fluor-B&W Portsmouth have been hosting public meetings to present information and answer questions. "What we've learned over the years is that there's not just one right way to do things," said Jamie Jameson, Fluor-B&W project manager. "It's important to listen to people and find out what really matters to them. What we're doing here will have a lasting impact on the communities surrounding this site. That's a responsibility my entire team takes very seriously."

Justin Landrum, a Fluor-B&W Portsmouth employee, cuts a pipe during utility work installing new trailer complexes that will house personnel at the DOE Portsmouth site during the decontamination and decommissioning of the former gaseous diffusion plant.

Materials Disposition

One of the major decisions that will be made this year is on material disposition. "There are currently two options being considered," Adams said. "One is to ship all material to offsite disposal facilities, and the other is a combination of off- and onsite disposal. Both have their advantages and disadvantages."

The combination approach would involve constructing an onsite disposal cell to accept the less contaminated material, while shipping the more highly contaminated material, such as certain process equipment, offsite. "In this scenario, approximately 90 percent of the material would stay onsite, but much less than 50 percent of the radioactivity," stated J. D. Chiou, director of Environmental Remediation for Fluor-B&W Portsmouth. "The bulk of the material in an onsite disposal cell would be soil and construction debris generated during the cleanup, with the DOE permanently monitoring any material dispositioned

Fluor-B&W Portsmouth specialist Doug Martin works on the installation of utility lines in preparation for the installation of trailers that will provide office space as buildings are demolished.

onsite." The estimated cost of the on- and offsite disposal strategy is $668 million.

If, through the public participation process, the decision is made to ship all of the material offsite, the campaign would involve an estimated 15 000 railcars transporting material more than 55 million miles at a cost of approximately $1.62 billion. "Our neighbors, who are also taxpayers, are relying on us to be good stewards of this land," Adams said. "Public acceptance is one of nine criteria that DOE must consider in proposing a final solution for cleanup. Citizens rightfully expect that we'll carefully consider and fairly evaluate their concerns, and that's exactly what we're doing."

Other Issues, Other Decisions

Additional decisions that will be made in the next 15 months concern process building decontamination and demolition, and the approach for soil remediation. As the DOE and Fluor-B&W Portsmouth prepare for the demolition of the process buildings, special requirements will be in place to address the hazards—radiological, chemical, and physical—inside equipment and buildings, as well as in the soil and groundwater under and around the buildings. For the remainder of this year, the focus will be on facilitating the regulatory process, while continuing to make progress on the site's other cleanup activities. "Some remedies have already been identified, and we're implementing those, while we work with the regulators on these other decisions," said Joel Bradburne, DOE Portsmouth site lead. "It's a dynamic process that requires integration on a multitude of levels. Because so many of the site's activities are interrelated, communication and coordination are both crucial to success."

The DOE and Fluor-B&W Portsmouth have a shared goal of achieving the best possible result for the surrounding communities. "These aren't decisions that can be made overnight," Jameson said. "When we're done here, we want to make sure we've delivered exactly what the client and the community asked for."

During the formal public comment period scheduled to take place this summer, DOE will have official hearings to explain the proposed plans to the public and receive comments for the record. The DOE must consider and respond to these comments in the final Records of Decision it submits to the Ohio Environmental Protection Agency for approval. The DOE and the Ohio EPA will make the final decisions after consideration of all public comments. Decisions on material disposition and process building demolition are expected this fall. The final soil remediation strategy should be determined in 2014. ■

Julie Doering is marketing manager for Fluor Government Group. Alan Hambra is a photographer for Fluor-B&W Portsmouth. For additional information, contact Doering at Julie.Doering@fluor.com.

Site-Specific Advisory Board Member Brian Huber (right) listens to Rob Wiley and Bob Eichenberg, of Ohio University, discuss their efforts to better define various habitats on the site. Wiley, a consulting ecologist, and Eichenberg, senior project manager with the Ohio University's Voinovich School of Leadership and Public Affairs, have been working under a DOE grant to prepare a detailed habitat map and database for use in land and wildlife management planning.