

WM2012 Conference Panel Report

PANEL SESSION 79: DOE's Portsmouth (PORTS) Site: Challenges and Successes during the First Year of the New D&D Contract

Co-Chairs: Lisa Burns, *Site Consultant*
William Murphie, *Manager DOE Portsmouth Paducah Project Office (PPPO)*

Panel Reporter: Lisa Burns, *Site Consultant*

Panelists:

1. William Murphie, *Manager DOE PPPO*
2. Joel Bradburne, *DOE PORTS Site Lead*
3. Dennis Carr, *Fluor B&W PORTS (FBP) Deputy Program Manager and Environmental Remediation Manager*
4. Dennis Nixon, *FBP Planning and Site-wide Integration Manager*
5. Vince Adams, *DOE PORTS Site Director*
6. Ken Collier, *B&W Conversion Services (BWCS) PORTS Plant Manager*
7. Tom Robinson, *BWCS Paducah Plant Manager*

More than 80 people attended this two-part session that focused on issues and challenges encountered during the first year of the new D&D contract at the PORTS site in Piketon, Ohio. The first session discussed the D&D project managed by FBP and included separate 15-20 minute presentations on the project and workforce transition, D&D execution approach, regulatory framework and decision making and the challenges encountered with regard to waste disposition including onsite disposal. The session also included presentations on project baseline changes and asset recovery and revitalization. The second session focused on the DUF6 conversion project and the phased restart after the new contract was awarded.

The audience asked questions during and after each presentation and there was good interaction between the panel participants and members of the audience.

Bill Murphie kicked the session off by discussing the history of the PORTS Gaseous Diffusion Plant (GDP) operations and facilities. Bill discussed how the GDP went from full-scale operations into cold standby, cold shutdown, and eventually into full-scale D&D. Bill also laid out the proposed completion schedule and the challenges associated with meeting that schedule in lieu of current budget constraints.

Murphie acknowledged that the D&D work will be extremely challenging but will provide a balanced approach to cleaning up the legacy of the GDP.

Joel Bradburne discussed the numerous transitions that took place at the PORTS site over the last year. Each transition had its own set of issues and challenges. The transition of the US Enrichment Company (USEC), a privately-owned company, to DOE was compounded by the de-leasing process of hundreds of buildings, the Master Binding Facility Agreement, and the Safety Authorization Basis which bound the hot transfer of facilities. The regulatory transition process consisted of the transfer from Nuclear Regulatory Commission (NRC) control to DOE and EPA regulatory control of

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the Safety Authorization Basis, permits and the security programs. Staff transition was complicated by the number of employees affected (~2,400) and the number of prime contracts (5) that were involved. Finally, the transition between three separate contractors to three new, government prime contractors was a challenge that ensued over many months. Aligning these contractors and developing new project baselines to allow for continuity of operations continues to be a daily focus for DOE.

Dennis Nixon outlined the D&D execution approach that was developed by FBP. The FBP contract is a five year, \$2.1B, cost plus award fee contract that was awarded in August of 2010. Transition from the old D&D contractor was completed in March 2011. The USEC transition was completed in October 2011. Dennis summarized each of the technical approaches to D&D execution:

- Regulatory – assumes on-site disposal selected for some wastes and the accelerated decision process for waste disposition and the building records of decision (ROD).
- Surveillance and Maintenance (S&M) – take buildings to a stasis mode, drive overhead costs down and redirect the funds to the critical path items.
- Deactivation – utilize the “rolling wave” approach to deactivate the buildings.
- D&D – overlap deactivation activities with D&D and integrate the balance of plant D&D with the process building deactivation and demolition.
- Soil Remediation – Remediate the soils after D&D to allow for reindustrialization.
- Waste Disposition – Ship X-326 equipment offsite as it is generated and disposition the remaining waste consistent with the Waste Disposition ROD.
- Utilities and Infrastructure – Upgrade a number of these facilities in order to reduce costs (i.e. the boilers).

Dennis also summarized the key risks associated with this approach including the selection of offsite disposal of wastes, a delay in the decision documents, uranium deposits in process equipment exceed the Waste Acceptance Criteria (WAC), stakeholder involvement changes the proposed end use of PORTS and FUNDING availability and budget cuts.

Dennis did state that the current D&D scope completion is scheduled at FY 2021, based on optimal funding.

Dennis also allowed that the consolidation of the USEC work scope under FBP lengthened the site transition and the baselining process; however, it also provided considerable value by improving the efficiency of site cleanup under one contractor and has all site entities working together for the net benefit of the site and workforce.

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Dennis Carr focused his discussion on the regulatory framework employed by FBP in executing the D&D approach. Dennis began by stating that the buildings and site waste disposition is being addressed under CERCLA and the soils and groundwater remediation are addressed under RCRA. He said these two processes will be integrated. Dennis stated that there are three remaining regulatory decisions to be made; final use of process buildings, site wide waste disposition and the final soil cleanup levels. Dennis said the community outreach activities have increased over the last year with scheduled quarterly public meetings, meetings with plant neighbors, increased involvement of the Site Advisory Board, and the initiation of a site envoy program.

A large portion of Dennis's presentation focused on waste disposition alternatives. PORTS has a total waste volume of ~ 2,177 M cy – this includes soil from deferred units, building debris, process gas equipment and potential material for recycle.

Dennis stated there are three alternatives for waste disposition:

- Ship all soils, debris, and equipment to offsite disposal facilities;
- Ship materials with highest contamination offsite and lower contaminated materials to onsite disposal;
- Leave waste where it is.

Dennis ended by saying that the decisions for process building demolition, soil cleanup levels and waste disposition have not been made but the formal public comment process will begin this year. FBP has a good working relationship with the SSAB and the Ohio EPA and they both support the accelerated regulatory decision process. FBP looks forward to a productive and busy year ahead.

Vince Adams focused his presentation on asset recycle and material reuse. Vince started by saying that there are many regulatory drivers for evaluating potential recycle and that PORTS is systematically evaluating the cost effectiveness of asset recovery and recycle when deciding on material and waste disposition. Vince went on to state that there was ~ 180,450 tons of metal at PORTS including structural steel, scrap, aluminum, copper and nickel. Each of these types of metal can further be broken down into categories including clean, clean but in a radiological area, surface contaminated and volumetrically contaminated. PORTS has had success in recycling clean metal such as clean transformers and mixed steel, copper and aluminum from the switchyard D&D. The money (~\$2M) from this metal recycle went to community development through the PORTS Community Reuse Organization – Southern Ohio Diversity Initiative (SODI). This also avoided \$800K in disposal costs and helped to create 100 new jobs by leveraging with local companies. Vince stated that the next phase of D&D will encounter new challenges as the available metal will not all be clean and will be encumbered by the DOE suspension and moratorium.

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Vince went on to discuss the suspension and moratorium and what the current status is of both at PORTS:

- Suspension
 - Allows for recycle once site is determined to be compliant with DOE Order 458.1
 - HQ assessment of site release procedures/processes – follow-up of PORTS site has been completed and corrective actions are in progress
 - Path forward will be determined after completion of HQ Programmatic Environmental Assessment
- Moratorium
 - PORTS has ~ 6,400 tons of volumetrically contaminated, classified nickel valued at ~ \$116M - \$768M
 - PORTS is looking to solicit commercial purification technologies to find a safe, environmentally sound and cost-effective technology that cleans the nickel to clean or cleaner than commercial nickel for ultra-pure applications
 - Nickel actions in progress include an Information Memorandum to the Secretary of DOE for a Path Forward, Expression of Interest for commercial technology, characterization of nickel in commerce and a complete Nickel Release Environmental Assessment.

Vince ended by stating that there are many challenges ahead to successfully deploy asset recovery and recycle at PORTS, but that many avenues are being explored to facilitate the cost-effective recycle and/or reuse of materials and equipment and the safe, compliant, effective decontamination and processing of the contaminated nickel.

Ken Collier and Tom Robinson in a joint presentation discussed the transition actions at the Piketon and Paducah DUF6 facilities and the status of the partial conversion operational mode at both facilities. BWCS operates both facilities and has 382 employees at three locations (Paducah, Piketon and Lexington). They explained that the DUF6 operation is a startup, first-of-a-kind manufacturing operation that is building towards a long-term sustainable future. Both facilities are operating the plants with a goal of converting DUF6 and dispositioning the HF in a safe, compliant, cost-effective and reliable manner. The DUF6 facilities had started operational readiness and hot functional testing at transition. BWCS then started the operations risk assessment and the Phased Restart. The Phased Restart consisted of integrating and operating each line's specific equipment, bringing the line to operational status, and then to full operation (converting). Both Ken and Tom stated that there were inherent challenges during transition including the integration of three different cultures, a workforce accustomed to construction and testing but not operations, processes that had not been

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fully integrated or operated, and no steady commercial experience. Start-up had its own set of challenges including equipment failures, unreliable support systems, low inventory and quality of spare parts, and the task of training entire production and maintenance teams. Tom and Ken did state that most all of the challenges were typical of any manufacturing startup operation and that they fully anticipate both plants being in full commercial production at design through-put by the end of FY 2012.

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