

WM2015 Conference Panel Report

**PANEL SESSION 114: Featured Sites US DOE-EM Lexington, KY Office
(PORTS and PAD)**

Session Co-Chairs: **William Murphie**, *US DOE*
 Lisa Burns, *WAI Energy and Sustainability Consultant*

Panel Reporter: **Lisa Burns**, *WAI Energy and Sustainability Consultant*

Panelists:

- **Mr. Joel Bradburne**, *DOE PORTS Site Lead*
- **Vince Adams**, *US DOE PPPO/Portsmouth Site Director*
- **Dennis Carr**, *Site Project Director, Fluor B&W PORTS (FBPORTS)*
- **Jennifer Woodard**, *US DOE Paducah Site Lead*
- **Mark Duff**, *Project Manager, Fluor Federal Services Inc./LATA of KY, LLC, Paducah*
- **John Woolery**, *B&W Conversion Services (BWCS)President*

Approximately 40 people attended this panel session which featured DOE's Portsmouth/Paducah Project Office (PPPO). This DOE Project Office is responsible for management and cleanup at the Portsmouth, Ohio and Paducah, Kentucky former Gaseous Diffusion Plant (GDP) sites. Portsmouth (PORTS) is focused on performing D&D of the plant – including demolition of legacy structures and disposition of equipment from the large process buildings. At Paducah (PAD), DOE recently accepted the return of formerly leased enrichment facilities from United States Enrichment Corporation (USEC) and selected a contractor to initiate deactivation of the plant. Major decisions on D&D and waste disposition alternatives are approaching at both sites and the depleted uranium hexafluoride (DUF6) conversion plants continue to accelerate their progress towards full production capacity at both sites.

Summary of Presentations:

Joel Bradburne started out by describing the DOE PORTS site accomplishments for Fiscal Year (FY) 2014. In FY 2014, 70 percent of the X-326 process equipment was removed through cut and cap activities (to be completed by the end of FY 2015) and approximately 660,000 cubic feet of waste was shipped to the Nevada National Security Site (NNSS), making PORTS EM the largest shipper of waste to NNSS. Thanks to comprehensive and engaged community involvement, several Record of Decisions (RODs) will be finalized in the next year. Final cleanup decisions are expected in the summer of 2015 on the site-wide waste disposition and process buildings, as well as the complex facilities D&D decision. The contaminated soil remedy decision is expected in the 2016/2017 timeframe and finally, the groundwater remedy decision will follow after 2017. Once these RODs are issued, the cleanup of the site will be straightforward over the next 25 years. In addition to the cleanup decisions, PORTS continues to investigate the recovery of the volumetrically contaminated nickel. The bench scale tests are currently being evaluated by DOE EM.

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Dennis Carr began by describing the main two challenges for FBPORTS: 1) reducing the mortgage costs at the site and 2) driving the critical performance path of decommissioning the three process buildings. To reduce the mortgage costs, the site is working to improve and upgrade the efficiency of its archaic infrastructure systems including downsizing the electrical supply system, reducing water use, and using gas-fired boilers. This has resulted in a 24% reduction in spending from FY 2012 to FY 2015. Additional upgrades are planned for the sanitary sewer and plant air systems. Dennis also described how FBPORTS is using several important methods to drive the critical path performance of the process buildings deactivation. FBPORTS continues to streamline the deactivation approach by maintaining the integrity of the facilities being deactivated including maintaining the installed process gas systems. The site is also integrating subject matter experts into this new mission who have helped to expedite deactivation, maintain capabilities for deposit removal and HEU down blending, and integrate security into the deactivation process.

Jennifer Woodard provided an overview of the key Paducah accomplishments in FY 2014:

- Extracted 1,200 pounds of pure TCE from the subsurface soil at the C-400 Removal Project.
- Awarded a 3 year, \$420M contract to Fluor Federal Services (FSS) for deactivation of the gaseous diffusion facilities.
- Transitioned 419 facilities (over 8.8M sq. ft. of floor space) to DOE from United States Enrichment Corp. (USEC).
- Completed 4.5M man-hours without a lost time accident.

Jennifer discussed how the transition was accomplished by using an integrated model to ensure all interested and essential parties were included in the process.

D&D accomplishments included the removal of more than 30,000 cubic feet of material to complete the C-746B Building Doors 1&2 Removal Project as well as the complete demolition of the C-410 building.

Groundwater remediation accomplishments included the TCE source removal, preparations for deep soil mixing at the southwest plume, C-400 Phase 11a pulse operations and shutdown, and the initiation of the C-400 Phase 11b steam injection treatability study.

Jennifer stated that community involvement continues to be a key accomplishment for Paducah and one that continues to provide the site with a powerful partnership.

Mark Duff stated that they are in Period 3 of the Deactivation Project Timeline which involves facility deactivation and infrastructure optimization. As this continues to evolve, the site is also involved in the process of defining the end-state vision (future reuse). Numerous challenges continue to be addressed during this period as well and are critical to a streamlined and successful deactivation period. Mark discussed the following ongoing challenges:

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- Impact of the recent plant transition from USEC to DOE – safely and compliantly maintaining the facilities under DOE oversight.
- Transition of numerous contracts and cultures – trying to maintain consistency
- Methods to reduce S&M costs in order to accelerate cleanup – downgrade facilities from Cat 2 to Radiological facilities.
- Effective deposit removal – performing in situ chemical deposit removal to reduce risks and provide cost avoidance.
- Right-sizing and optimizing plant infrastructure and systems – save money while preparing for future work, and
- Completing the CERCLA decision process for waste disposal alternatives - support long term site cleanup with multiple stakeholder concerns regarding an onsite disposal cell.

John Woolery started his discussion with a description of the DUF6 process and the activities that took place at each plant in FY 2014. Portsmouth currently has three lines and 6 conversion units in operation and Paducah has four lines and 8 conversion units operating.

John stated the FY 2014 productions results as follows:

- 22,596 MTs of DUF6 processed (66% increase over FY 2013)
- 3,500,000 gallons of hydrofluoric acid safely shipped offsite for recycle into commerce
- Facility availability increased from 55% to 80%.

Accomplishments also included a successful ISMS Phase I and II review, no findings during an NNSA audit, and \$3.23 M in validated cost savings.

John stated that the FY 2014 production initiatives include:

- Discharge chute/rotary valve
- Oxide powder transfer
- Process off-gas system (POS) reliability
- Fluid bed stability
- Cylinder feed variability.

John also discussed several issues that make meeting production goals a continuing challenge; these include efficient cylinder movement, equipment reliability, equipment lifespan, and predictive maintenance. John stated that due to two recent downtimes at PORTS, they might not meet their FY 2015 production goals.