

WM2014 Conference Panel Report

PANEL SESSION 127: Featured Sites US DOE-EM Lexington, KY Office (PORTS and PAD)

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

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

Panelists:

1. **Vince Adams**, *US DOE Portsmouth Site Director*
2. **Dennis Carr**, *Site Project Director, Fluor B&W PORTS (FBPORTS)*
3. **Mark Duff**, *Project Manager, LATA of KY, LLC, Paducah*
4. **Kent Fortenberry**, *Chief Engineer, B&W Conversion Services (BWCS)*

This panel session 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 initial phases of D&D of the plant – principally legacy structures and disposition of process gas equipment. Paducah (PAD) is focused on soil and groundwater remediation while negotiating the change in operational status of the United States Enrichment Corporation (USEC)-leased enrichment facilities and preparing for future Decontamination and Decommissioning (D&D). Both sites are also ramping up production at their DUF6 conversion plants.

Summary of Presentations

Vince Adams started out by describing the DOE PORTS site accomplishments for Fiscal Year (FY) 2013. After a complicated DOE transition, the site has begun to focus on the task at hand – cleanup of the site. In FY 2013, approximately 300,000 square feet of footprint reduction was achieved by demolition of numerous onsite facilities. One of the most significant structures to be demolished over the past year was the old steam plant which was replaced by a new gas-fired boiler. The new steam boiler will save the site approximately \$1M per year in operation and maintenance costs. The site won a DOE sustainability award for this project, which will also greatly reduced greenhouse gas emissions. Vince also discussed the Cut and Cap Deactivation project in the X-326 process building. The process gas equipment is being removed by “cutting and capping” with more than 80 cell equivalents being removed to-date and 1,100 converters being shipped offsite. Vince then highlighted the success of the DOE – Southern Ohio Diversification Initiative (SODI) - Community Reuse Organization – that has generated more than \$4.4M and 300 community jobs by transitioning site assets into the community for reuse. Vince also commented that PORTS continues to work towards a more permanent recycle/reindustrialization program by addressing the metal suspension and metal moratorium issues with DOE Headquarters. The material that has been recycled thus far has consisted of mixed metals, excess personal property (vehicles), synchronous condensers, and transformers. The site has also transferred four water wells to the local community to help increase capacity as well as provided a tie-in from the local county sewage into the site sewage treatment system. Vince went on to explain that there is still potential for more recycle in the form of 50,000 tons

WM2014 Conference Panel Report

of mixed steel, copper, and aluminum, 1,740 more motors, 190 miles of copper cable, and 8,000 tons of transformers and switchgear from the onsite switchyard.

Vince ended his presentation by stating that PORTS is trying hard to improve relations with stakeholders through public outreach and by collaborating with officials on waste disposition and future land use.

Dennis Carr began by describing the FBPORTS scope of work which includes the dismantlement and disposal of the gaseous diffusion plant facilities, cleanup of contaminated soils, remediation of groundwater, assessing the landfills, and supporting the community vision for long term use. Dennis explained the difficulty that the site has had in developing a DOE site safety culture. Safety incidents over the past year have shown some gaps in this safety culture, but also have driven safety improvements. The Integrated Safety Management System (ISMS) Phase 2 Verification was successfully completed and the site has increased its safety communications and involvement, leading to a better program. Dennis expects safety improvements to continue. Dennis next highlighted the issues and actions in the key, priority programs at the site.

Starting with the Site Maintenance, Infrastructure, and D&D Management program, Dennis pointed out that the site has many 65 year-old facilities with 145 acres under roof with many of these roofs deteriorating. The site also has a 2.2 gigawatt electric grid which is excessive for a D&D mission or for planned future use, but it is still part of the national electric grid. Dennis went on to say that the site also has sewage treatment facilities and other utilities with single points of failure and extensive safety systems which must be maintained until facilities can be vacated or demolished. All of this creates a problem at a site where D&D is expected but the date is not known, due to budgets. Dennis asked how much do you spend to right-size and maintain a facility slated for D&D. He then stated that PORTS has current plans to repair or replace critical components, eliminate single points of failure in infrastructure systems and evaluate maintenance practices for efficiencies. The site will also repair or replace roofs, reduce sanitary water usage by 38 percent and transfer onsite facilities to the new 13.8 kV distribution system. All of these projects will help to stabilize, prepare, and maintain the site for future D&D. Dennis also promoted the use of the 5-5-5 Plan – 5 people/5 months/\$5M in savings. This approach was supported by management and when implemented in the last year helped to identify \$13.5 M in annual savings.

Dennis went on to say that the Uranium Barter Program provides up to 70 percent of the site funding and is mission critical. The operations team has been able to meet the 2,400 MTUs needed per year and this is expected to continue.

William (Bill) Murphie provided an overview of the Paducah De-Lease process by discussing the key short-term and long-term goals of site transition and de-lease.

Short-term goals include transiting from current Nuclear Regulatory Commission (NRC) regulations to DOE regulations and preparing to maintain facilities under DOE oversight while balancing deactivation, site cleanup, and reutilization actions within continuing funding constraints. Long-term goals include effectively integrating the EM cleanup scope into the de-lease process in order to provide risk reduction, cost savings and a quicker performance of work.

WM2014 Conference Panel Report

Bill also discussed the Paducah Deactivation Contract and the USEC turn-over timeline and provided a road map which indicated an August 2015 de-lease target date. Bill also highlighted the myriad of issues and challenges that are currently being addressed including regulatory transition, reuse of the GDP and its assets, realignment of the existing DOE prime contracts, and workforce continuity and staff transition. He also stated that key planning issues also include optimizing the electrical switchyards, UF6 deposit removal and Tc-99 removal.

Mark Duff began by describing the LATA KY work scope which includes five operable units; Groundwater, Inactive Facilities, Burial Grounds, Soils, and Surface water. Mark stated that LATA KY has been operating the cleanup contract for 3 years with a high safety performance record. Mark continued by highlighting several ongoing, key projects:

- Continuing the groundwater remediation of the TCE sources at the site.
- Continuing the demolition of the C-410 Feed Plant Building.
- Complete the Decision Documents and start-up the remedy for 2 of the 8 burial grounds.
- Complete the Decision Documents for the CERCLA Waste Disposal Alternatives and begin implementation of the selected alternative.

Mark also provided an outlook for FY 2014 which included the following:

- Increase the flow rates across the filter units to improve operational efficiencies at the C-746-U landfill upgrade.
- Perform a site wide soils evaluation.
- Conduct a soils remediation investigation.
- Prepare the C-746-B Warehouse for D&D.
- Continue to integrate remediation operations with USEC transition operations to prepare for seamless transition.

Kent Fortenberry started his discussion with a description of the DUF6 process and the activities that took place at each plant in FY 2013. Kent stated that they are continuing to move from start-up to full operation at both the Portsmouth and Paducah plants. Portsmouth currently has three lines in operation and Paducah has four lines operating. There is a total of 800,000 metric tons (MT) of DUF6 in storage at both sites that needs to be processed (20,000 cylinders at Portsmouth and 45,000 cylinders at Paducah).

Kent stated the FY 2013 productions results as follows:

- 13,579 MTs of DUF6 processed
- 2,279,000 gallons of hydrofluoric acid safely shipped offsite

WM2014 Conference Panel Report

- Availability increased by 150-200 percent
- Process throughput increased by 38 percent
- Production rates more than doubled the FY 2012 rates.

Kent went on to say that they increased availability by adding off gas blowers for redundancy, applying lessons learned, and increasing operating experience. The throughput was increased by addressing powder discharge and powder transfer limits. Business processes were also improved and became more effective by updating the current baseline to align with the current contract as well as continuing to work towards a certified procurement system.