U.S. DEPARTMENT OF ENERGY

2011 Congressional Nuclear Cleanup Caucus

Portsmouth/Paducah Project Office
Piketon, OH and Paducah, KY Sites

March 31, 2011

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Manager Portsmouth/Paducah Project Office
PPPO Environmental Management

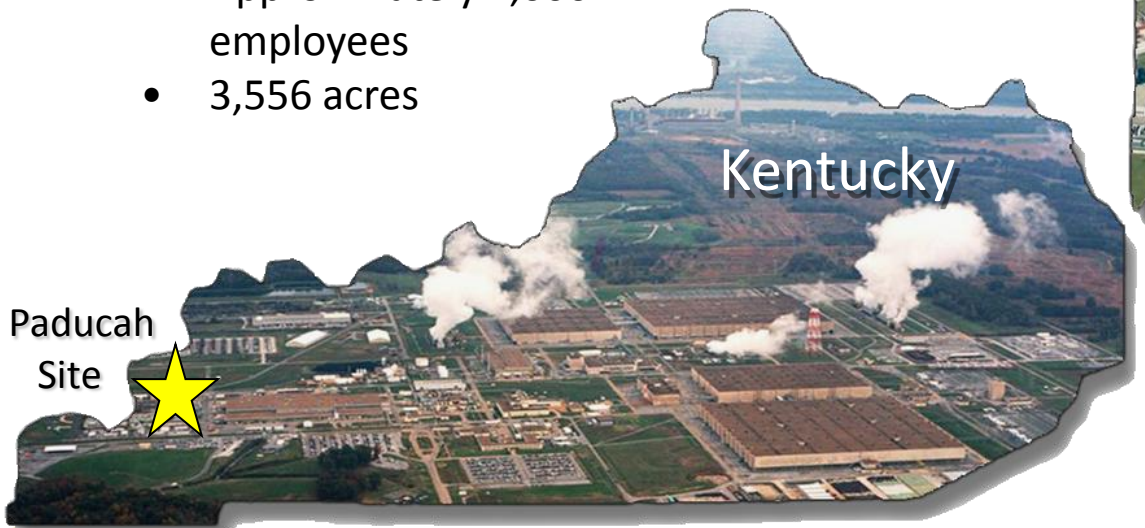
Portsmouth and Paducah Sites

Portsmouth/Paducah Project Office Vision:

"Safely accelerate cleanup, ensuring protection of the public and environment."

Demographics:

- Approximately 2,000 employees
- 3,556 acres



Demographics:

- Approximately 2,600 employees
- 3,777 acres

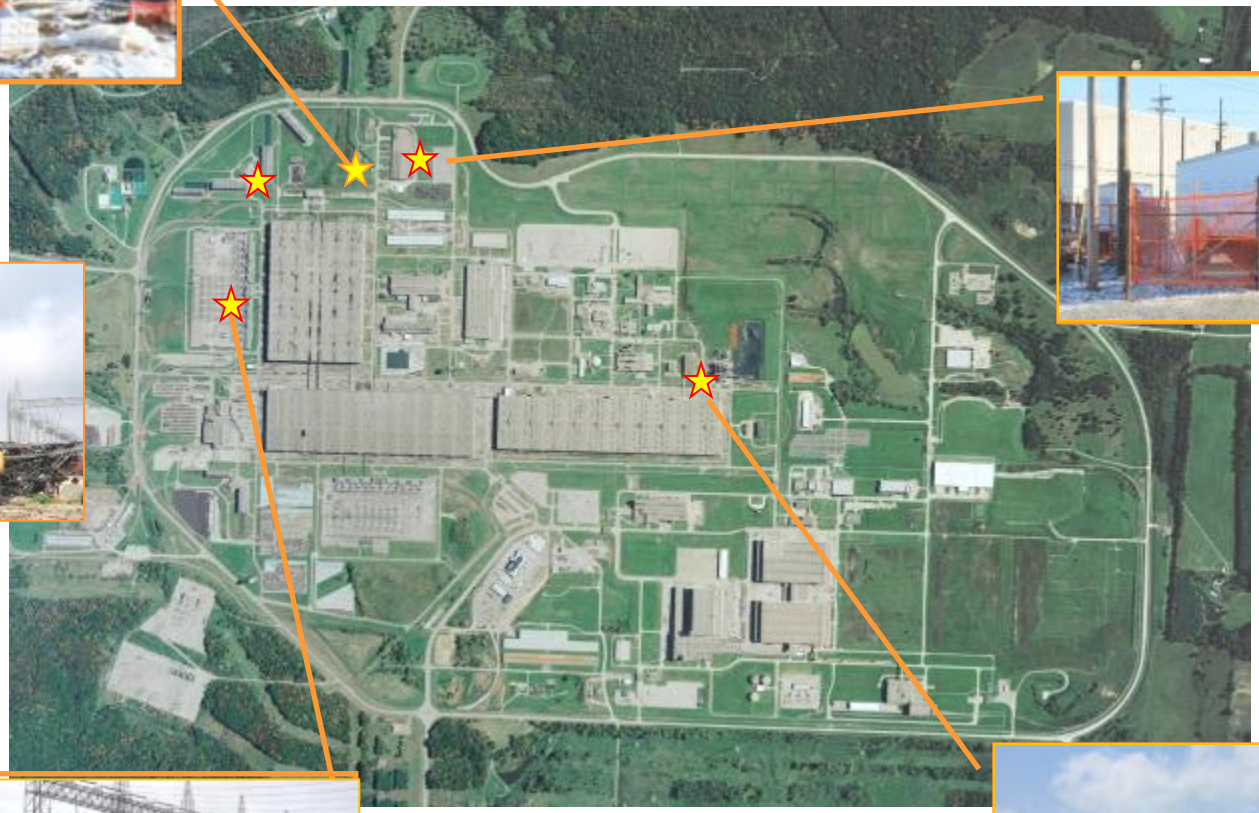
PPPO Mission and Priorities

Priorities:

- Legacy waste removal/environmental remediation
- Decontamination and decommissioning (D&D) of Portsmouth gaseous diffusion plant
- Depleted Uranium Hexafluoride (DUF_6) conversion operations
- Environmental Remediation under the GDP

Recovery Act Projects Completed at Portsmouth Site

☑X-701B Soils Treatment



☑X-633 Cooling Tower Complex D&D

☑Repackaging & Disposition of Excess Uranium Materials

☑X-533 Electrical Switchyard Complex D&D

☑X-760 Chemical Engineering Building D&D

Completion of Portsmouth Recovery Act Projects

☑ Demolition of 21-acre X-633 Cooling Tower Complex

- Dismantled four towers, pump house, and dispositioned 738,000 ft^3 of waste
- $11 million project completed 7 months early in June 2010

Before

After

Completion of Portsmouth Recovery Act Projects

☑ X-701B Soils Treatment

- Project mixed sodium persulfate oxidant in soils 30 ft beneath the surface to chemically destroy trichloroethene (TCE) contamination.
- Initial 42,000 ft^2 area treated in August 2010; additional 28,000 ft^2 area completed January 2011.
- Results: 95% reduction in TCE levels.

Soils excavation to 30 ft depth

Oxidant application

Area backfilled with treated soils

Completion of Portsmouth Recovery Act Projects

☑ Demolition of 18-acre X-533 Electrical Switchyard Complex

- Dismantled 160 electrical towers, two switch houses and control room.
- $28 million project completed in December 2010.
- Generated more than 8,000 tons of clean scrap materials for recycling or reuse.

Removal of 260-ton synchronous condenser

Before

D&D of East Switch House

After

Completion of Portsmouth Recovery Act Projects

- Clean Recyclable Materials from D&D of X-533 Electrical Switchyard and X-633 Cooling Tower Complexes.
- 8,000 tons of materials provided to Southern Ohio Diversification Initiative (SODI) as of March 2011.
- $1,444,828 recycling proceeds to SODI as of March 2011.
- Approximately $722K scheduled to be returned to the Government.

Breakdown of Scrap Metals :

Type of Metal	Amount
Steel	7,100 tons
Copper	1,300 tons
Aluminum	130 tons
Other Metal	70 tons
TOTAL	**8,600 tons**

Completion of Portsmouth Recovery Act Projects

T-Hoppers and Sealand containers of uranium oxide– before remo

☑ Repackaging/Disposition of Excess Uranium Materials

- 15 separate lots of excess uranium materials shipped to Nevada National Security Site (NNSS)
- 1,668 metric tons uranium disposed under ARRA
- Major shipping campaign held mid-February to mid-March 2011 to complete ARRA work

Same area, after disposition

Several lots of uranium materials in storage

EM Base Program Accomplishments at Portsmouth

- Demolition of Excess Facilities
  - 2nd Cooling Tower Complex
  - X-103 Auxiliary Office Building
  - X-344B Maintenance Storage Building
  - X-334 Transformer Storage Building
  - 3 smaller support structures
- Continued Environmental Remediation Activities
- Waste Disposition
- Cold shutdown activities
- Integrate Gaseous Diffusion Plant D&D

X-630 Recirculating Cooling Water Tower Complex

X-103 Auxiliary Office Building

X-344B Maintenance Storage Building

X-334 Transformer Storage and Cleaning Building

GDP Cold Shutdown Update

- Major milestone completed September 30, 2010: Return of all three process buildings and 24 support facilities from USEC to DOE for D&D.
- Cold Shutdown contract with USEC ends March 28, 2011.
- Remainder of site facilities is anticipated to be turned over by June 30, 2011.

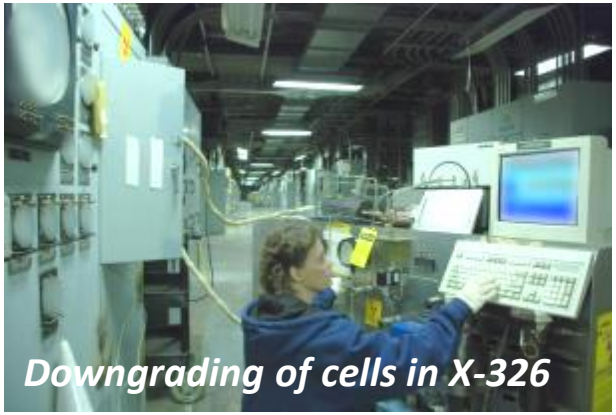
GDP Cold Shutdown Update

- New 15,000 ft^2 dry air plant constructed in 2010.
- 10,000 electrical capacitors removed from X-330 and X-333 process buildings.
- 1,100 ft cooling water blow-down line installed.
- Since January 2009, more than 240 cells in X-333, X-330 and X-326 Process Buildings treated and downgraded to uncomplicated handling uranium deposits.

New Dry Air Plant

Removal of capacitors from Process Buildings

Cooling water blow-down line installation


Downgrading of cells in X-326

D&D Transition at Portsmouth FY11

D&D of GDP Facilities

- Pre-D&D actions being taken:
  - ✓ dismantle and relocate/remove salvageable or reusable equipment
  - ✓ reduce hazards (abatement of interior asbestos materials)
  - ✓ isolate electrical substation and excess utilities
  - ✓ Install temporary lighting

D&D contract valued at $2.1 billion over 10 years

- D&D contract awarded August 2010; D&D Contractor Fluor-B&W Portsmouth onsite
  - Detailed D&D plans are being prepared
  - Employee meetings held, workforce/facility transition in process

Community Support

- Site-Specific Advisory Board is actively engaged with DOE, providing 6 recommendations in 2010
- 270,000 gallons recyclable transformer oils, 18 transformers and more than 8,000 tons of a total of 8,600 tons clean scrap metals from D&D projects have been provided to Southern Ohio Diversification Initiative (SODI) through March 2011.

Pike County Commissioners, USEC and DOE officials sign sewer services agreement

SODI proceeds from recycling of materials to support southern Ohio jobs initiatives

Near-Term Challenges at Portsmouth

- Transitioning LATA/Parallax Portsmouth and USEC workers to new D&D contractor (Fluor-B&W Portsmouth).
- Return of facilities from USEC at Portsmouth is a complicated process due to NRC certificate and lease agreement with USEC.
- Ramp up of D&D work at Portsmouth.
- Transitioning of Uranium Disposition Services employees at Paducah, Portsmouth and Lexington to new DUF_6 contractor (B&W Conversion Services).

Funding for Portsmouth Cleanup

	FY2010 Enacted Appropriations In Millions	FY2012 Congressional Request In Millions
Portsmouth Gaseous Diffusion Plant	$310	$310
Uranium transfer for accelerated cold shutdown work	$98	Additional uranium transfers anticipated

- Uranium transfers in FY 2010-2011
- FY 2009-11 ARRA = $119M
- Secretarial Determination on Uranium issued on 3-2-11

FY 2012 Budget for Portsmouth

FY 2012 Congressional Budget Request - $310M

Highlights:

Nuclear Facility Deactivation and Decommissioning/Environmental Restoration Projects $221.7M

- Complete preparatory work and removal of excess equipment/hazardous materials from three major gaseous diffusion plant facilities
- Conduct site-wide surveillance and maintenance and environmental monitoring and reporting for soil and groundwater
- Accelerated D&D scope subject to additional uranium transfers

Safeguards and Security $16.4M

- Provides security services for personnel, equipment, information, matter, and special nuclear materials

Waste Stabilization and Disposition $22M

- Continue disposition of uranium materials stored in the Uranium Management Center

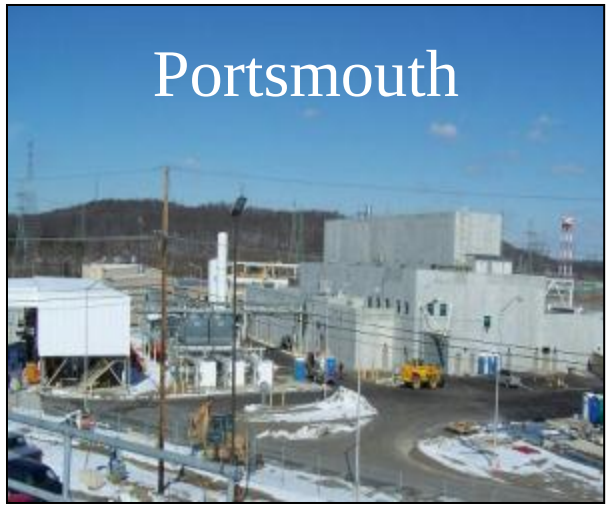
Community and Regulatory Support/Other $1.8M

- Supports grants with regulatory agencies and site specific advisory board
- Supports litigation and record searches in support of legal claims

Depleted Uranium Hexafluoride Conversion Project $48.1M

- Operate the Depleted Uranium Hexafluoride Conversion facility, including treatment and packaging of depleted uranium

Depleted Uranium Hexafluoride (DUF_6) Plant



- Completing Hot Functional Testing
- Ramping up to full operations
- Successfully transitioned to new Operations Contractor (BWCS)
- DUF_6 Conversion Facility will employ approximately 160 skilled hourly and salaried personnel during operations.

Depleted Uranium Hexafluoride (DUF_6) Plant

- Hot Functional Testing is underway
- Ramping up to full operations
- Successfully transitioned to new Operations Contractor (BWCS)
- DUF_6 Conversion Facility will employ over 160 skilled hourly and salaried personnel during operations.

U.S. DEPARTMENT OF ENERGY

Portsmouth/Paducah Project Office

Paducah, KY Site

March 31, 2011

Bill Franz

Project Integration and Operations Manager

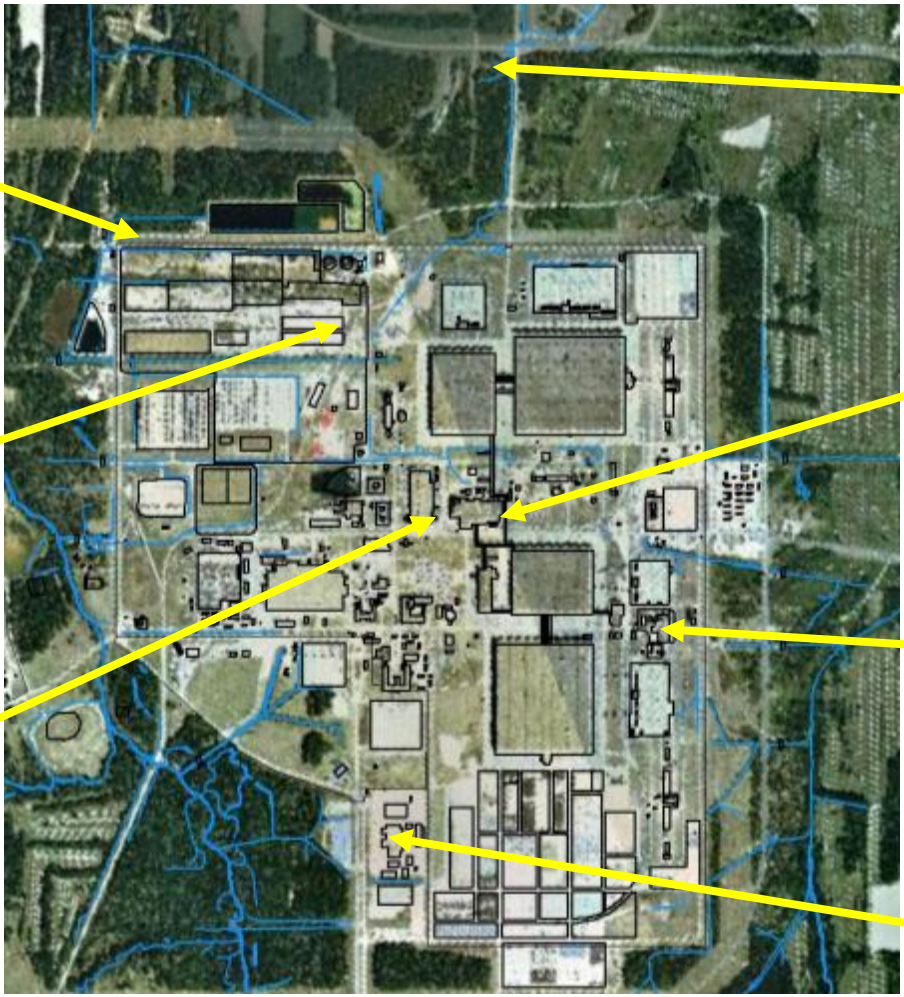
LATA Kentucky

Paducah Cleanup Actions

Drilling wells .

Demolishing the East End Smelter.

Removing degreaser TCE



Digging up contaminated soil.

Removing material from the old Feed Plant

Razing part of the old Metals Plant.

DUF6 awaits conversion to a safer form.

Paducah Cleanup Actions

- Disposed of 40,000 cubic yards of polychlorinated biphenyls, radioactive and heavy metal contaminated sediment from plant ditches and outfalls.
- Increased capture rate of degreaser TCE to nearly 100 percent in one large plume of contaminated groundwater.
- Removed about 550 gallons of TCE from the leading suspected source of groundwater contamination.
- Cleaned up and demolished one of three large, inactive complexes used in Cold War work.

Excavating dirt from North-South Diversion Ditch

Major Progress on Paducah Recovery Act Projects

- Three accelerated D&D projects
  - C-340 Metals Plant
  - C-410 Feed Plant
  - C-746A East End Smelter
- $80.4 million in Recovery Act funding; $51 million has been spent.
- More than 180 jobs funded at Paducah as of January 2011

Feed Plant bus bar removal

Metals Plant vacuum removal

Feed Plant vacuum system stabilization

Metals Plant Conveyor Demo

Site Achievements

Smelter Demolition

Feed Plant Bus Bar Removal

Soil Removal-Old Firing Range

C-340 Metals Plant – Recovery Act

- Demolished two of the five structures in summer 2010.
- Completed magnesium fluoride system removal in a third building in December 2010, five months ahead of ARRA schedule.

Soils Remedial Investigation

- Completed about 15,000 soil borings at $2 million savings.

Site Achievements

C-410 Feed Plant

Material being prepared for removal

Soil Removal-C-410

C-410 Feed Plant – Recovery Act

- Met Feed Plant milestone with 25% of piping and equipment removed in June 2010, one month ahead of ARRA schedule.

Soils Remedial Investigation

- Contaminated soils removed and covered at the C-410 site.

Major Progress on Paducah Recovery Act Projects

Utility isolation

Recovery Act workers remove electrical conduit

Heavy equipment demolishes the Smelter

C-746A East End Smelter

- Razed in September 2010, one year ahead of schedule
- Smelter savings, plus unused reserve and contingency money, are funding about $17.8 million in additional Feed Plant work
- Smelter workers shifted to other projects

Technology at Paducah:
Groundwater Contamination Source Removal

Drilling electrodes

C-400 treatment facility panorama

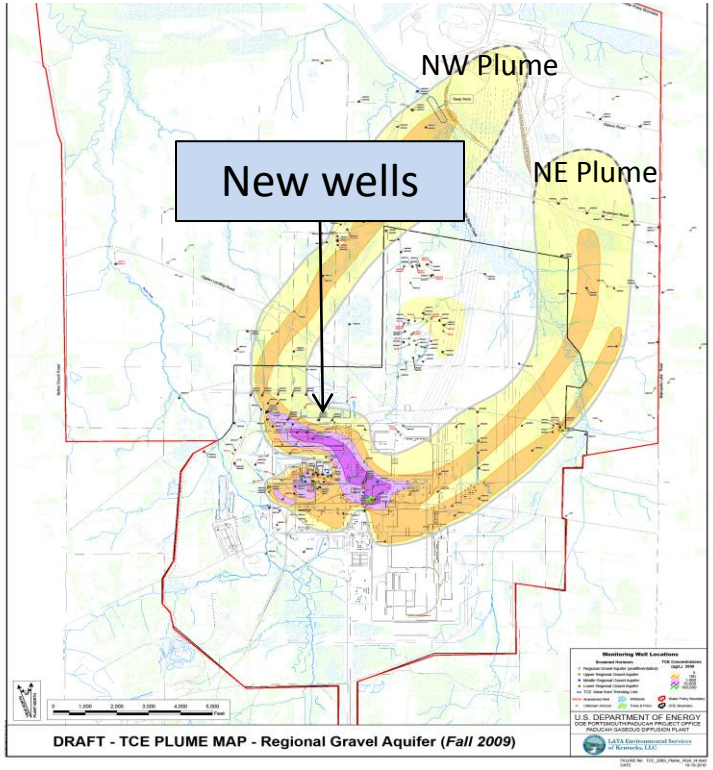
Inside water treatment facility

- Removed about 550 gallons of degreaser TCE using electrical resistance heating near the C-400 cleaning building.
- C-400 is the leading suspected source of groundwater contamination at Paducah.

Technology at Paducah:
NW Plume Pump and Treat Optimization

- Groundwater modeling and two new wells in 2010 increased TCE capture in the Northwest Plume to nearly 100 percent.
- Pump-and-treat optimization system planned for the Northeast Plume by 2012.

Boring an extraction well for the Northwest Plume



Near-Term Challenges at Paducah

- Safe and successful completion of ARRA projects and workforce restructuring.
- Future potential large excavations at the Burial Grounds, and options for waste disposition will require public interaction and CERCLA decisions.

Funding for Paducah Cleanup

	FY2010 Enacted Appropriations In Millions	FY2012 Congressional Request In Millions
Paducah Gaseous Diffusion Plant	$165.1	$143.7

- FY 2009-11 ARRA Base = $80.4
- ARRA work complete by end of FY 2011

FY 2012 Budget for Paducah

FY 2012 Congressional Budget Request - $143.7M

Depleted Uranium Hexafluoride Conversion Project $51M

- Operate the Depleted Uranium Hexafluoride Conversion facility, including treatment and packaging of depleted uranium.

Nuclear Facility Deactivation and Decommissioning/Environmental Restoration Projects $70.7M

- Complete deactivation and decommissioning of two industrial facilities, dispose of demolition waste and complete site restoration activities.
- Complete construction of Southwest Plume pump and treat system and initiate operations.

Safeguards and Security $9.4M

- Provides security services for personnel, equipment, information, matter, and special nuclear materials.

Waste Stabilization and Disposition $7.1M

- Continue operation and maintenance of onsite sanitary landfill.

Community and Regulatory Support /Other $5.5

- Supports grants with regulatory agencies and citizens advisory board.

PPPO Conclusion

Any Questions?

Comments?