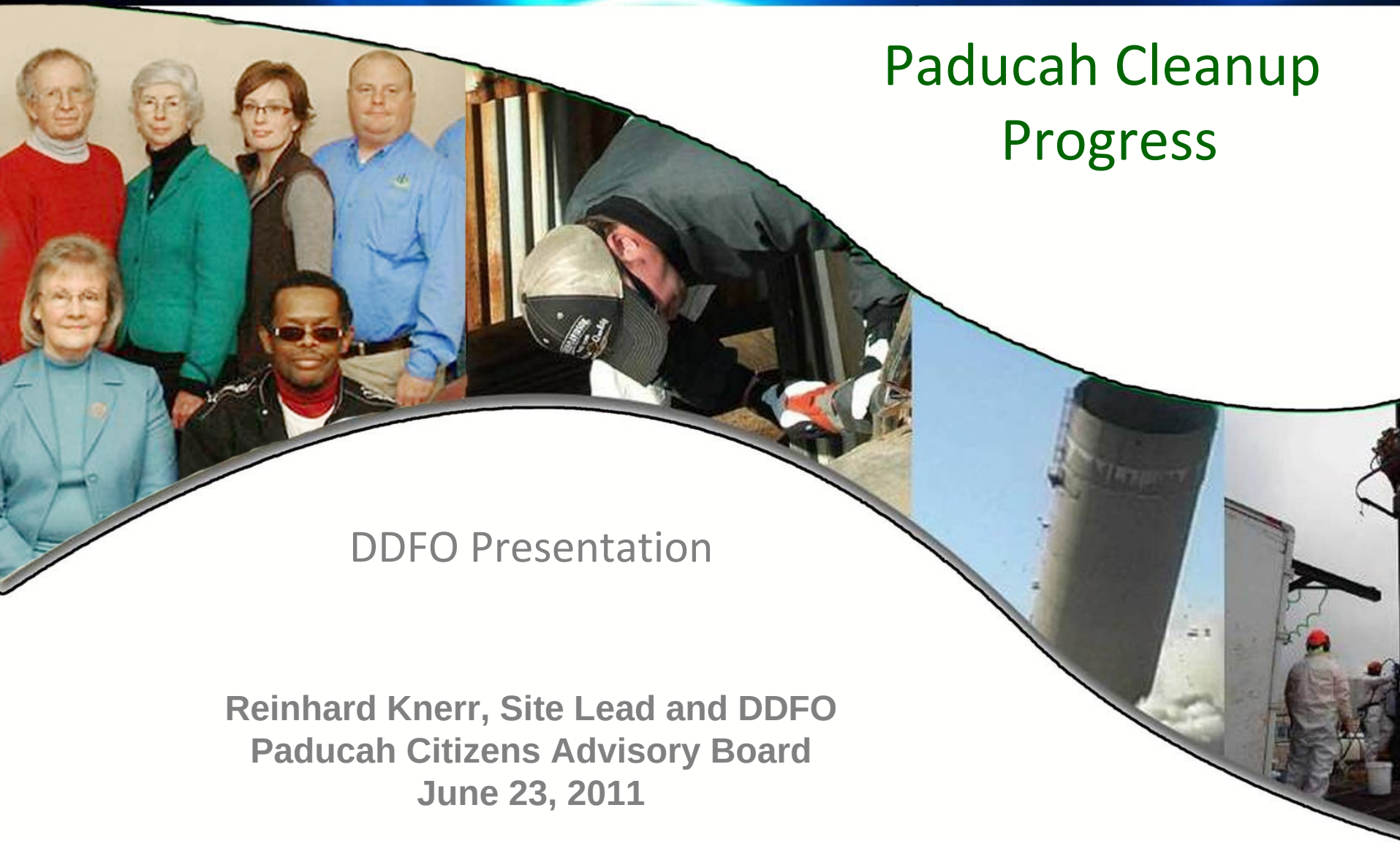
U.S. DEPARTMENT OF ENERGY



Paducah Cleanup Progress

DDFO Presentation

Reinhard Knerr, Site Lead and DDFO
Paducah Citizens Advisory Board
June 23, 2011

Presentation Agenda

- American Recovery and Reinvestment Act Projects
  - C-340 Metals Complex
  - C-410 Infrastructure Complex
- Federal Facility Agreement Projects
- C-400 Source Reduction
- Southwest Plume
- Surface Water Notice of Violations
- Depleted Uranium Hexafluoride (DUF_6) Plant
- Community Outreach Events
- LATA Kentucky Workforce Transition
- New LATA Kentucky Site Project Manager

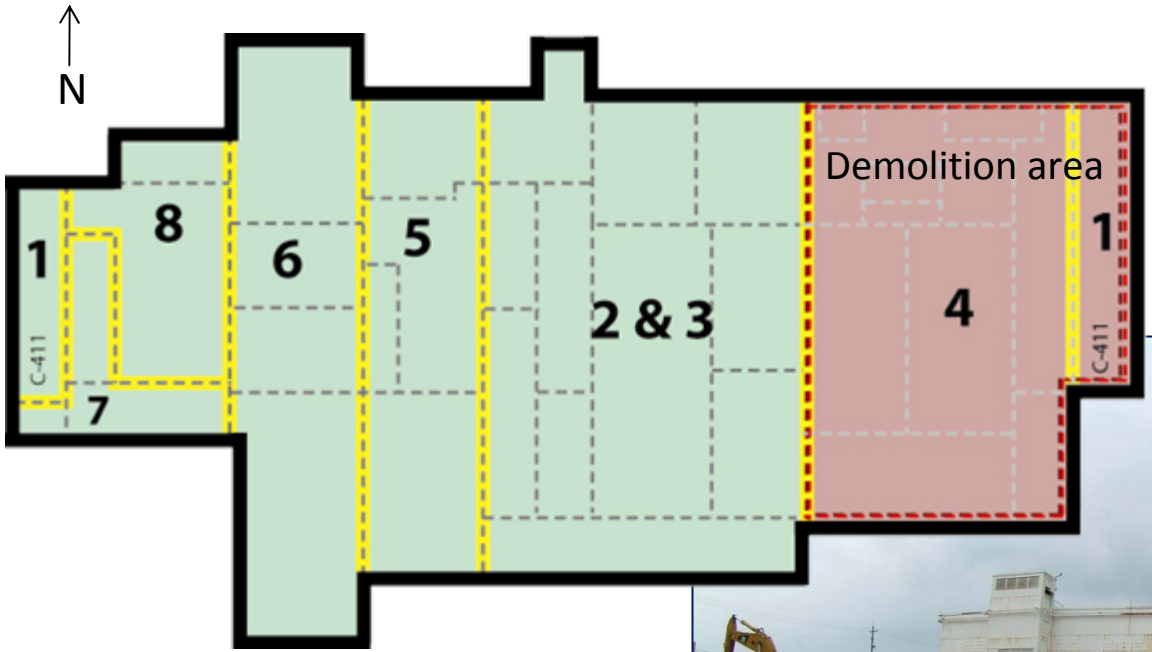
C-340 Metals Complex

C-340 Complex is nearly 90% complete and forecast to be demolition-ready by the end of July 2011.

An operator uses a remote-controlled Brokk demolition machine to remove duct work in the C-340 Metals Plant.

C-410 Infrastructure Complex

Demolition of the eastern section (C-411 and C-410, Sector 4) of the complex, covering roughly half an acre, is nearing completion.



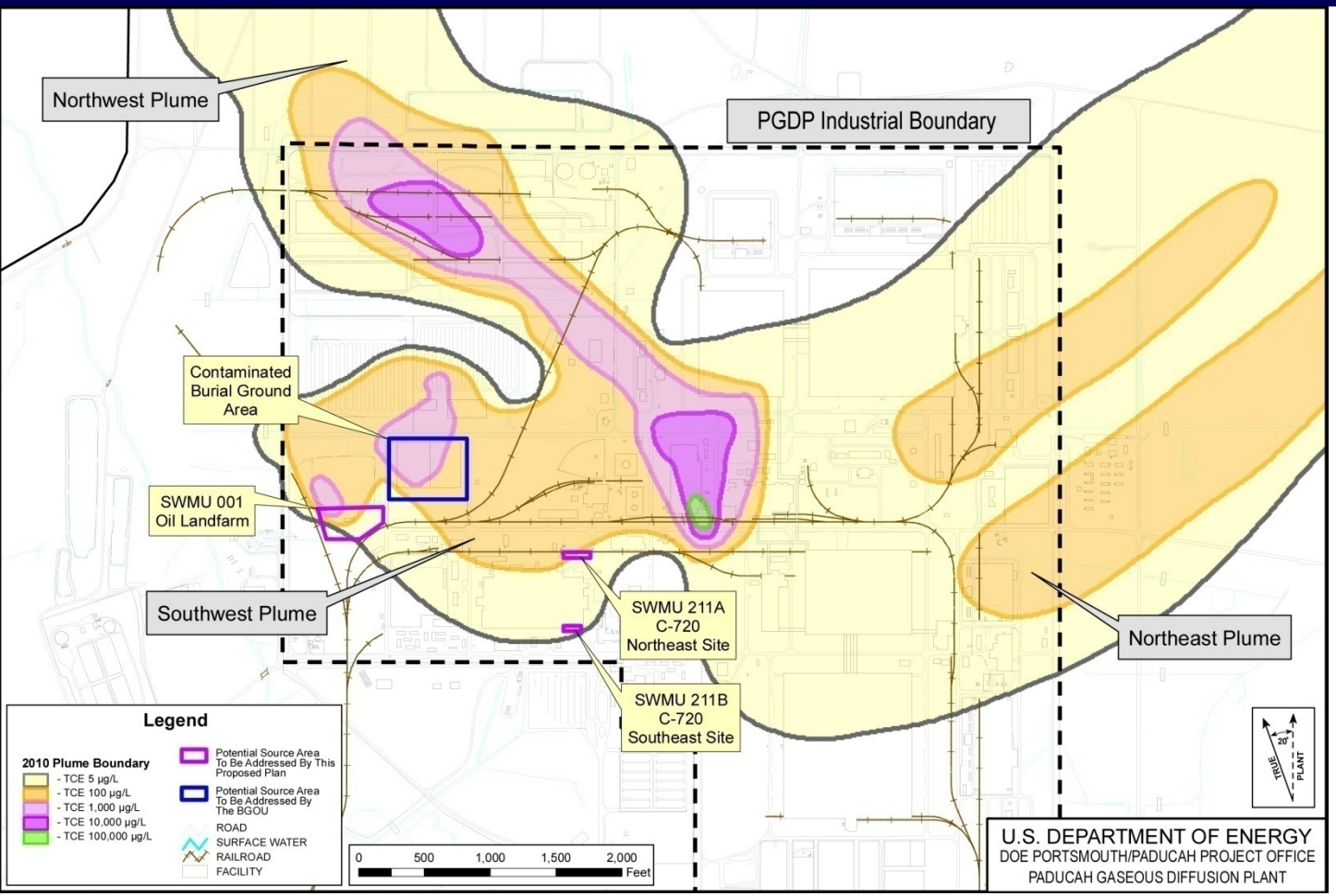
Heavy equipment moves demolition debris, foreground. The remainder of C-410 is in the background.

C-410 Infrastructure Complex

The black inlet hose is attached to a negative air machine that allows workers to safely deactivate UF_6 piping, seen at right of the lift they are standing on.

- Remaining portions of what was a 195,000-square-foot complex are being prepared for anticipated demolition in FY 2012.
- Approximately 70% of the structure is demolition-ready.
- Some of the more challenging work involves uranium hexafluoride, hydrogen fluoride, and uranium systems removal.

Southwest Plume



- Proposed Plan due to EPA, Kentucky on June 22, 2011.
- ROD due to regulators by July 22, 2011.
- Remedy:
  - Soil mixing at SWMU 1, the Oil Landfarm.
  - Enhanced In-Situ Bioremediation at C-720, SWMU 211A and 211B. Characterization followed by either enhanced In Situ Bioremediation or long-term monitoring.

70 gallons total TCE previously estimated for the three sites.

Depleted Uranium Hexafluoride (DUF_6) Plant

- Babcock and Wilcox Conversion Services (BWCS) continues ramping up to design-capacity operations.
- The facility is expected to begin full-scale operation in fall 2011.
- BWCS will serve as the operating contractor for the first five years of an estimated 25-year project.
- Operational employment is projected at more than 160 skilled hourly and salaried personnel.
- Tails in approximately 41,000 cylinders will be converted into a more stable chemical form for beneficial reuse or disposal.
- USEC believes that at current market prices about 24% of the DOE tails would have value if re-enriched.

Community Outreach

Lone Oak Middle School students enjoy petting banded mallard ducks.

CAB Vice Chairman Ralph Young talks about recycling and the Greater Paducah Sustainability Project.

Eco Fair 2011

- CAB, DOE and WKWMA hosted the 2nd Annual Eco Fair on May 18-19, 2011, in the West Kentucky Wildlife Management Area.
- 550 sixth-graders attended from Ballard, Heath, Lone Oak, and Christian Academy middle schools.
- Activities ranged from banding and tracking waterfowl to cooking with solar heat.

Community Outreach

DOE's Jeff Snook explains the use of a field measurement tool to determine if groundwater is acidic, basic, or neutral.

LATA's Danny Guminski explains how the NW Plume Pump and Treat Facility works.

Heath Middle School Science Project

- 25 Heath Middle School Gifted and Talented science students visited the PGDP and participated in hands-on field activities on May 19, 2011.
- Students in grades 6-8 created maps, created simulated monitoring wells, and sampled groundwater with the help of DOE and LATA Kentucky personnel.
- The site visit was the first of its kind, linking classroom study and plant application.

New LATA Kentucky Site Project Manager

- Mark J. Duff became LATA Kentucky Project Manager June 13, 2011, replacing Barbara Mazurowski, who returned to S.M. Stoller Corp.
- Duff formerly worked with Babcock & Wilcox
  - Senior Director of Environmental Operations at the Y-12 National Security Complex in Oak Ridge, TN.
  - Most recently Senior Project Manager for Fukushima Daiichi Reactor Recovery Program in Japan following the 2011 earthquake and tsunami.

Backup Slides

Waste Disposal Options Project

- January 24, 2011, dispute resolution involves identifying modeling requirements for:
  - ✓ Engineered barrier failure times and behavior.
  - ✓ Risk metrics regarding assessment locations and carcinogenic/noncarcinogenic targets.
  - ✓ Failure metrics regarding clay barrier hydraulic conductivities.
- DOE sent revised Appendix C of the Work Plan on June 3 to EPA and Kentucky.
- Team met June 13-14 with regulators to discuss modeling requirements.

Tails Legislation

- Rep. Ed Whitfield and Sens. Mitch McConnell and Rand Paul on May 27 introduced the Energy and Revenue Enrichment Act of 2011.
- Bills would start a pilot program to re-enrich tails at Paducah and Portsmouth with still-usable quantities of uranium.
- Sponsors say the program would reduce waste by up to 30,000 tons, save taxpayers $135 million in avoided conversion and waste disposal, and help avoid the environmental impact of disposal.
- DOE Deputy Secretary Daniel Poneman testified June 13 on the issue before the Whitfield-chaired House Energy and Commerce Subcommittee on Energy and Power.