

Paducah Citizens Advisory Board

DDFO Presentation

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**CITIZENS
ADVISORY BOARD**



E_M Environmental Management

safety ♦ performance ♦ cleanup ♦ closure

Presentation Agenda

- Site accomplishments/headlines for FY 2011
 - ✓ Inactive facilities removal
 - ✓ DUF6 conversion facility
- Site challenges
- Projects status
- Anticipated FY 2012 DDFO topics
- Suggested CAB workplan topics

Site Accomplishments for FY 2011

Groundwater Operable Unit

- Completed Phase 1 of the C-400 Groundwater Remediation Project; removed about 580 gal of TCE from the leading suspected source of groundwater contamination.
- Increased capture rate of degreaser TCE to nearly 100% in Northwest Plume of contaminated groundwater.
- Completed Revised Focused Feasibility Study Report for the SW Plume Sources Action; submitted Proposed Plan and a Record of Decision for the SW Plume Sources Action.

Source Area	Cumulative TCE Removed (gal)*	Remaining TCE Estimate (gal)
Northwest Plume Pump-and-Treat	2,470	TBD
Northeast Plume Pump-and-Treat	260	TBD
C-400 Six-Phase Treatability Study	1,900	N/A
C-400 Phase I	580	TBD
C-400 Phase II	0	500-20,000**
Dissolved-Phase Plume	N/A	1,600
Other sources (i.e., SWMU 91-LASACINA)	246	TBD
Total	5,456	2,100-21,600

* Cumulative through December 31, 2010.

** Ongoing sampling at C-400 will determine TCE remaining in the C-400 area to be treated.

Site Accomplishments for FY 2011

Surface Water and Soils

- Completed Surface Water Operable Unit (SWOU) Removal Action by removing over 22,000 yds³ of contaminated sediment and obtained regulatory approvals for the Removal Action Report.
- Obtained regulatory approvals for the Soils Inactive Facilities Removal Action Report (2,700 yds³ of contaminated soil removed from C-410-B Neutralization Pit and C-218 Firing Range).
- Completed the Soils OU Remedial Investigation Report and submitted to EPA and KY for 86 Solid Waste Management Units (SWMU's) totaling ~200 acres; analyzed over 3,000 samples for various parameters.
- Submitted RI work plan for Surface Water OU, which includes two watersheds and ~6 miles of creeks accessible to the public.



Site Accomplishments for FY 2011

D&D

- Demolished the C-746-A East End Smelter and eastern third of the C-410 Feed Plant over one year ahead of schedule; left remaining Feed Plant about 70% demo-ready.
- Left the C-340 Metals Plant demo-ready with removal of about 100,000 ft³ of building systems waste.
- DOE will have spent approximately \$58M dollars in FY 11 for D&D activities representing 40% of the budget, employing ~200 people supporting D&D work.



Site Accomplishments for FY 2011

- Completed SWMU 13 Site Evaluation (SE) of a 294,000-ft² area formerly used for storage of clean scrap metal. The SE has been submitted to EPA and KY.
- Shipped all transuranic waste off-site, completing the last inventory of waste stored on-site under the Site Treatment Plan.
- Disposed of 40,000 yd³ of PCB/radioactive/heavy metal-contaminated sediment from plant ditches and outfalls.

Site News for FY 2011

- DOE, EPA, and Kentucky reach consensus on cleanup path forward in light of limited funding
- DUF₆ transitions to new operating contractor, Babcock & Wilcox Conversion Services, LLC; conversion plant target is to be fully operational in FY 2012
- LATA Kentucky and Swift & Staley teams are approaching 1 million hours without a Lost Work Day Case
- Recovery Act cleans up bulk of nearly 300,000 ft² of inactive facilities

C-340 Metals Complex



A worker uses a remote-controlled demolition machine to expedite cleanup in the Metals Plant.

- C-340 Complex declared demolition-ready in early August; total cleanup cost: nearly \$36 million in Recovery Act funding
- Workers met 25 Recovery Act milestones starting in late 2009
- Cleanup generated > 100,000 ft³ of systems waste, enough for about 200 truckloads
- Demolition anticipated in 2012; cost: < \$10 million, including waste disposition

C-410 Feed Plant



- Eastern third of Feed Plant, covering about a half-acre, was demolished in late June, three months ahead of schedule
- Workers have met 40 Recovery Act milestones so far
- Roughly 70% of remaining complex is demo-ready
- Demolition is anticipated in 2012

Depleted Uranium Hexafluoride (DUF6) Plant



- Babcock and Wilcox Conversion Services (BWCS) continues phased startup of conversion operations.
 - ✓ Startup of one of four lines was completed in July with a second line nearing completion.
 - ✓ Remaining lines are scheduled to be completed in September.
- Goal is to demonstrate operating capacity by September 30, 2011.
- FY 2012 efforts focused on achieving sustainable, multiline production capacity.
- 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.

Current Site Challenges

FY 11 DDFO Topics

Contaminated Sediments (Surface Water OU)

- Metals, radionuclides, and volatile organics have migrated off-site
- Potential impact to ecological receptors

Contaminated Soils (Soils OU)

- PCB soil levels have exceeded 1,000 ppm; TSCA cleanup level 25 ppm

Inactive Facilities (D&D OU)

- Two facilities remaining with no planned reuse

Burial Grounds (Burial Ground OU)

- Ten burial grounds covering ~60 acres
- Some contain radioactive, pyrophoric, and RCRA waste

Depleted Uranium Hexafluoride (DUF₆)

- 41,000 cylinders

Off-site TCE Plumes

(Groundwater OU: Dissolved-Phase Plumes)

- Residential wells contaminated
 - TCE reported as high as 1,000 ppb; MCL is 5 ppb
- Tc-99 Plume**
- Tc-99 Radionuclide releases have migrated off-site, but not above MCLs

Water Policy Boundary

TCE Groundwater Seeps

(Groundwater OU: Dissolved-Phase Plumes)

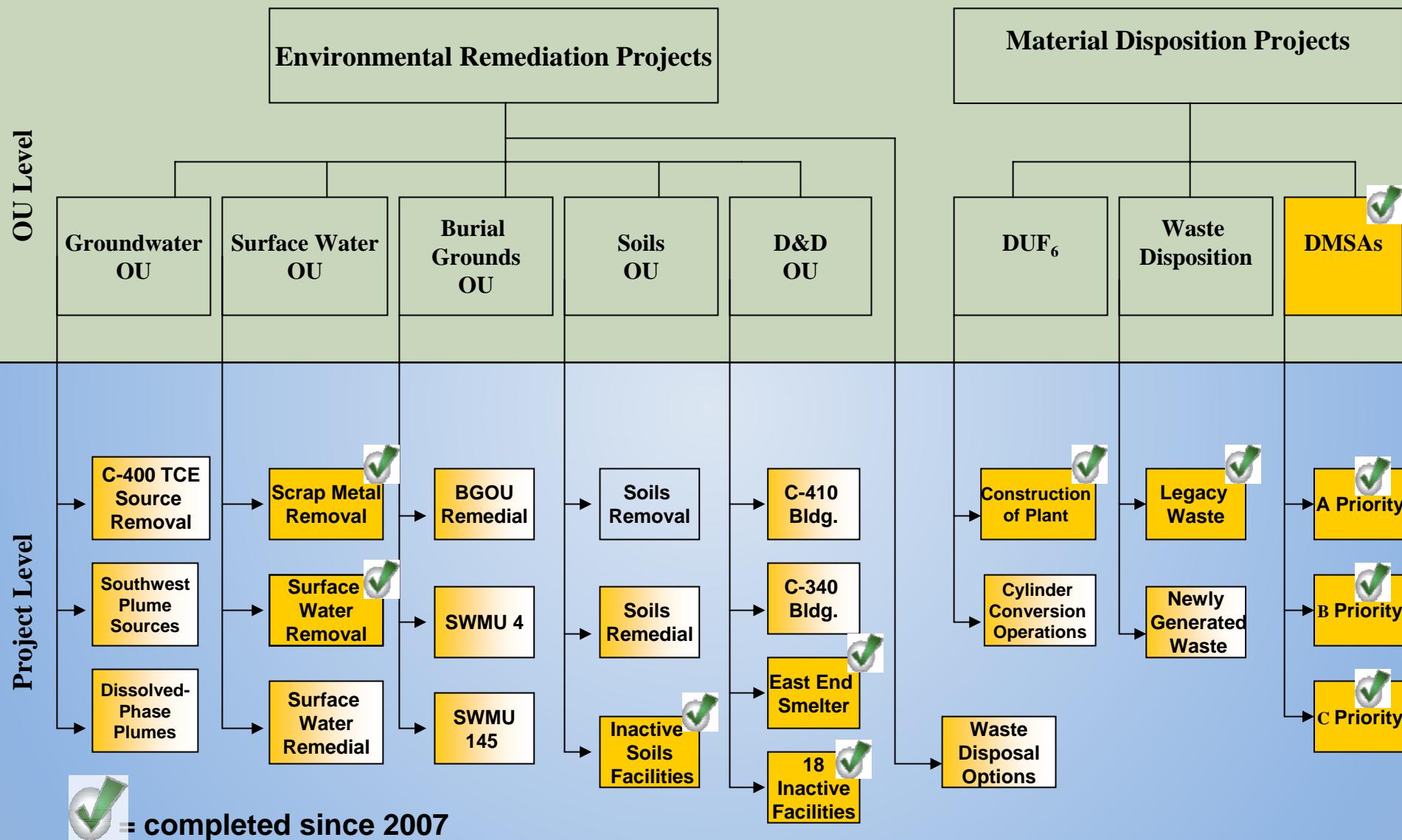
- Upspringing in Little Bayou Creek

Major TCE Sources

(Groundwater OU: C-400 and Southwest Plumes)

- DNAPL present; >500,000 ppb of TCE in groundwater
- Primary sources of off-site groundwater contamination

Current Project Status



Pre-Shutdown Scope

NOTE: Each environmental project is expected to have a corresponding CERCLA decision document (i.e., ROD, AM)

Anticipated FY 12 DDOF Topics

- D&D of C-340 Metals Plant, C-410/420 Feed Plant
- Southwest Plume Remedial Action
- Soils Operable Unit Feasibility Study
- Surface Water Remedial Investigation Work Plan
- NE Plume Optimization and Results of NW Extraction System Optimization
- DUF₆ Progress

DOE FY 12 Scope Focus

Suggested CAB Work Plan Topics

- Waste Disposal Options CERCLA Decision
- Burial Grounds CERCLA Decisions
- Soils CERCLA Decisions
- C-400 Technical Report and Phase II Sampling
- Integrated Priorities Listing

ACRONYMS USED

DOE = US Department of Energy

DUF6 = depleted uranium hexafluoride

EPA = US Environmental Protection Agency

OU = operable unit

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

TCE = trichloroethene

SW Plume = Southwest Plume

FY = fiscal year (starts October 1 ends September 30)

RI Report = Remedial Investigation Report

PCB = polychlorinated biphenyl

EMWMF = Environmental Management Waste Management Facility

FFA = Federal Facility Agreement

SWMU = solid waste management unit

IPL = Integrated Priority List

Discussion...



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