

Mark Duff

Project Manager
LATA Kentucky LLC

Paducah Environmental Remediation

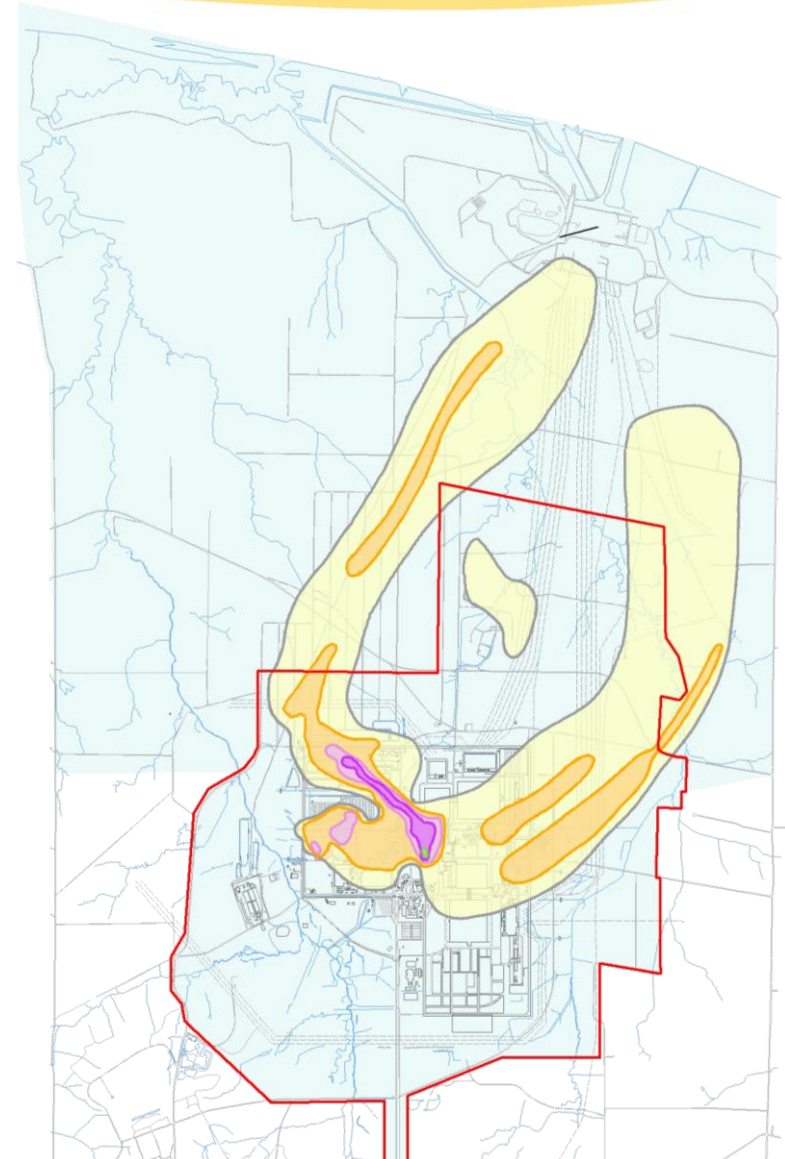
- **Groundwater** – Clean up chief sources; Reduce off-site contamination risk
 - ~6,500 gallons total TCE removed to date
- **Inactive Facilities** – C-410 demolition and disposal
- **Burial Grounds** – 10 areas spanning ~66 acres
- **Soils** – 66 areas totaling ~110 acres
- **Surface Water** – About 6 miles of creeks and ditches

Site-wide Waste Disposition evaluation

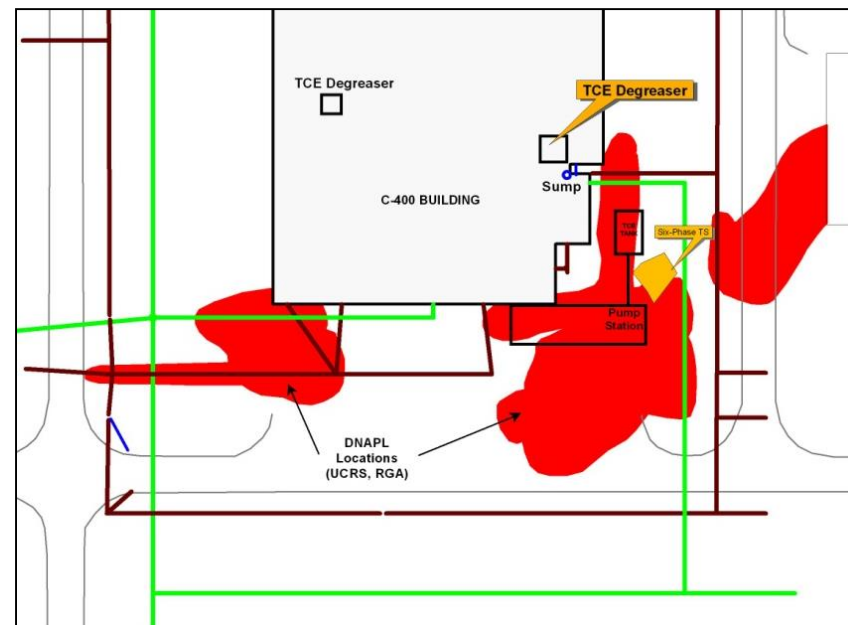
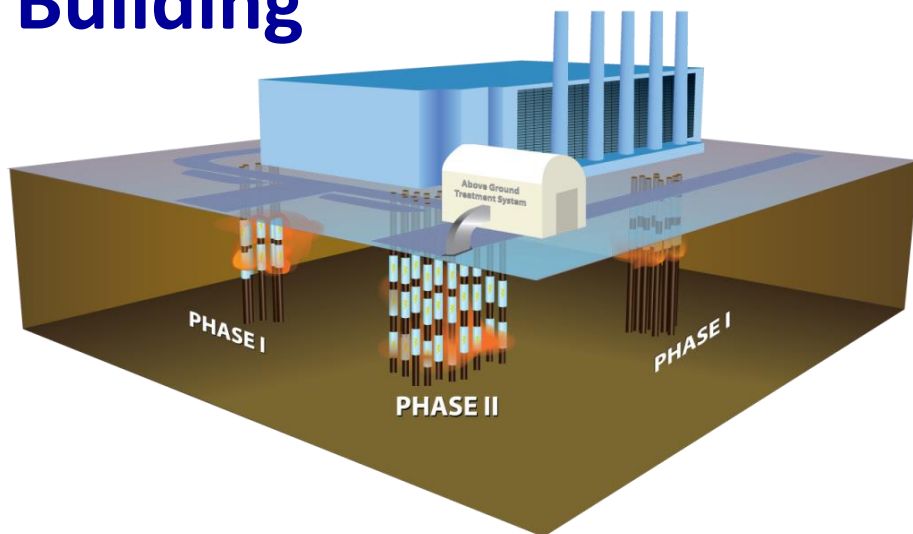
- Evaluating options for disposition of future cleanup and D&D waste



- Groundwater remediation of TCE
 - C-400 Source Remediation
 - SW Plume Sources Remediation
 - NE Plume Optimization
 - NW Plume Optimization
- Complete C-410 Feed Plant building demolition
- Complete CERCLA project documents
- Complete decision documents for CERCLA Waste Disposal Alternatives (on-site vs. off-site disposal)

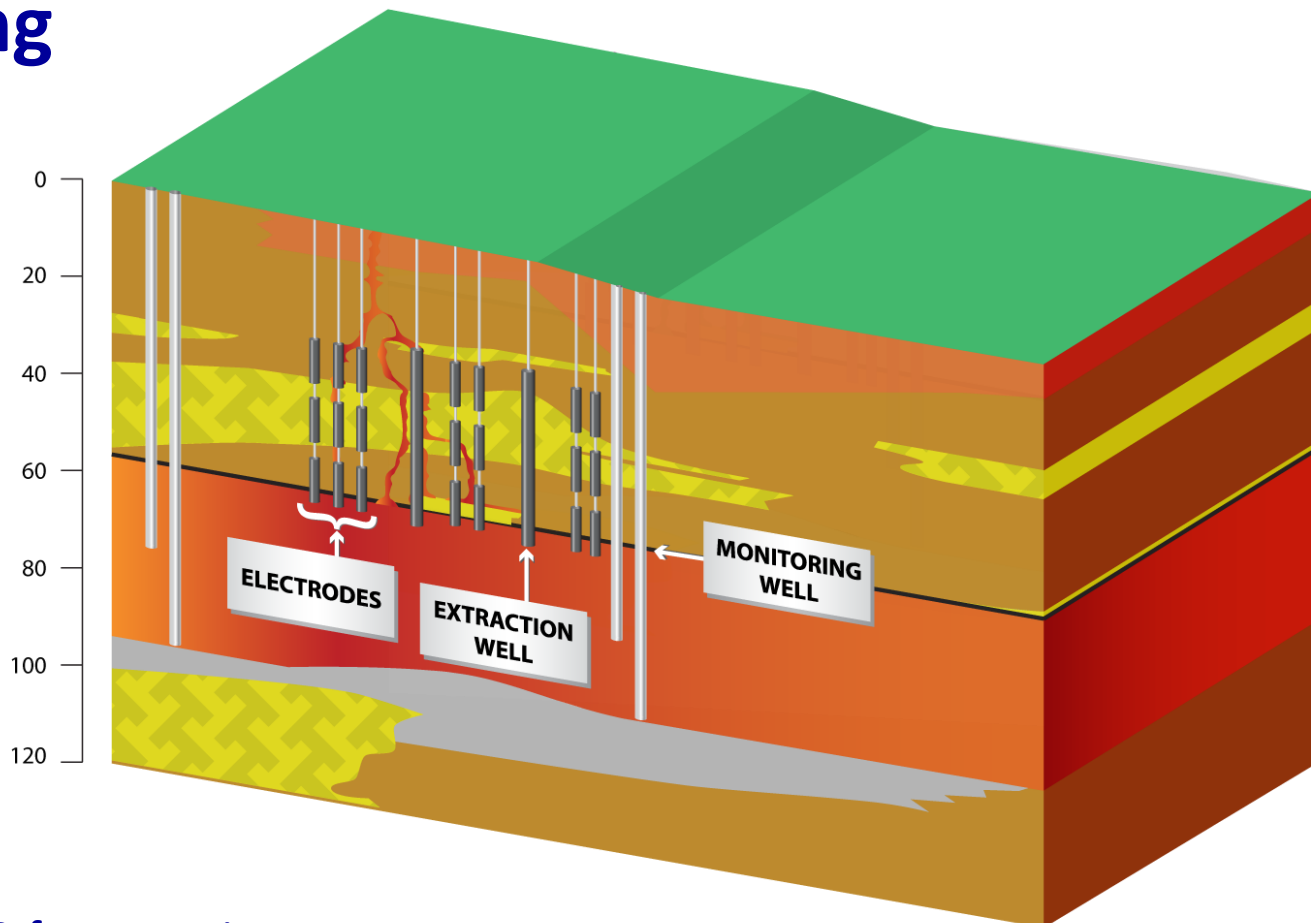


C-400 Cleaning Building



- TCE in the subsurface near C-400 Cleaning Building is thought to be the primary source of TCE contamination in the off-site groundwater plume
- Electrical Resistance Heating (ERH) is used to address TCE in the soil and groundwater east, southeast and southwest of C-400 Building
 - Phase I - completed in 2011 using ERH
 - Based on lessons learned from Phase I, subdivided Phase II into Phases IIa and IIb
 - Phase IIa ERH remediation is ongoing to remove TCE from shallow groundwater
 - Phase IIb Treatability Study is underway to evaluate effectiveness of steam treatment in lower reaches of regional gravel aquifer

C-400 Cleaning Building



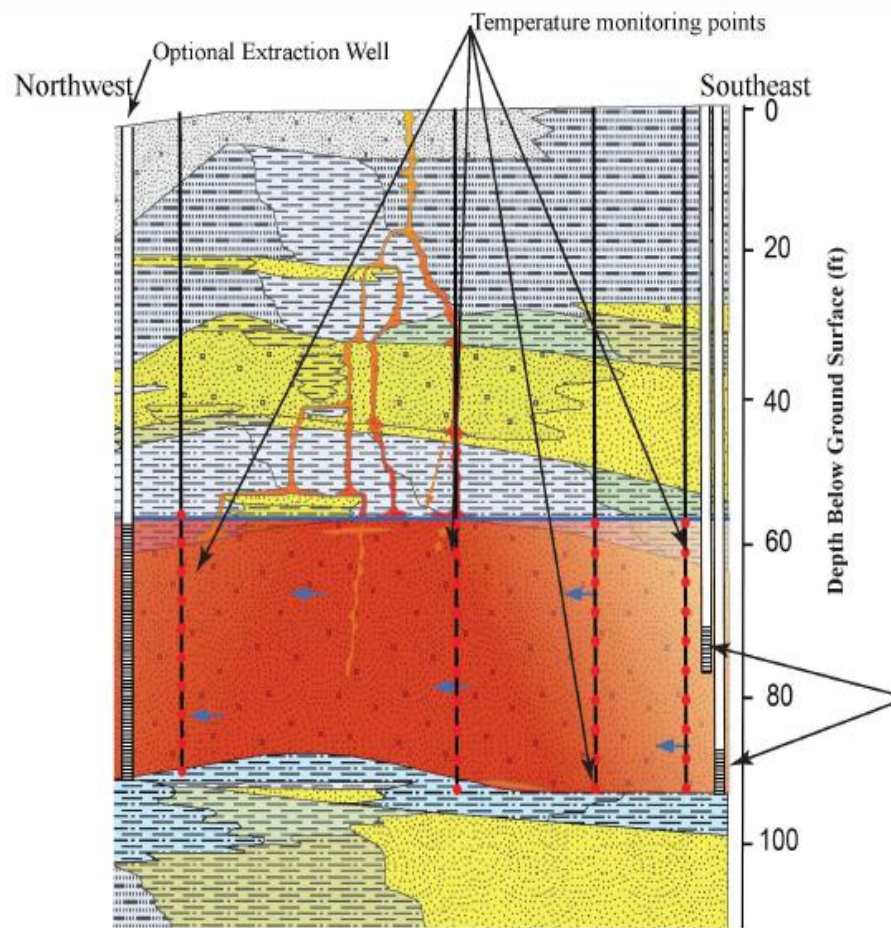
Phase IIa

- Addresses upper 60-ft. area using ERH
- Completed ERH system construction in FY2013
- Operations underway, projected to be completed in FY2014

C-400 Cleaning Building

Phase IIb

- Addresses area 60 to 100 ft deep
- Treatability Study Work Plan submitted for approval; design underway

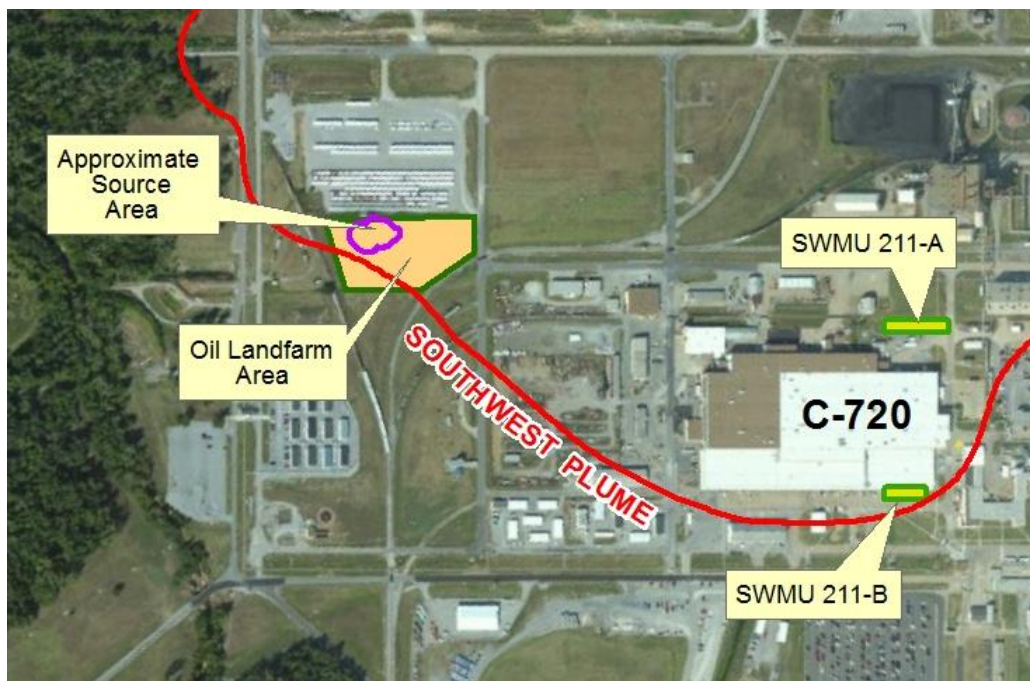


Conceptual Schematic Cross-Section

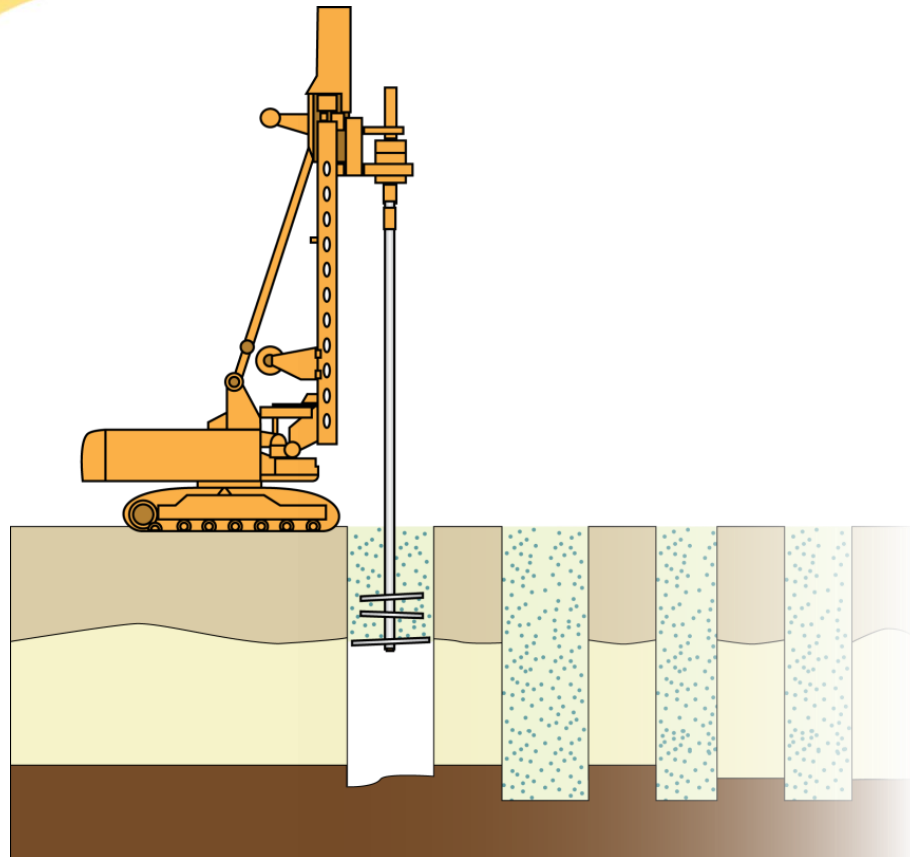
Southwest Plume

Southwest Groundwater Plume

- Waste oils containing TCE were biodegraded at oil landfarm (SWMU 1) from 1973-1979
- TCE also in ground at two sites near C-720 Maintenance Building



Oil landfarm as shown in 1970s

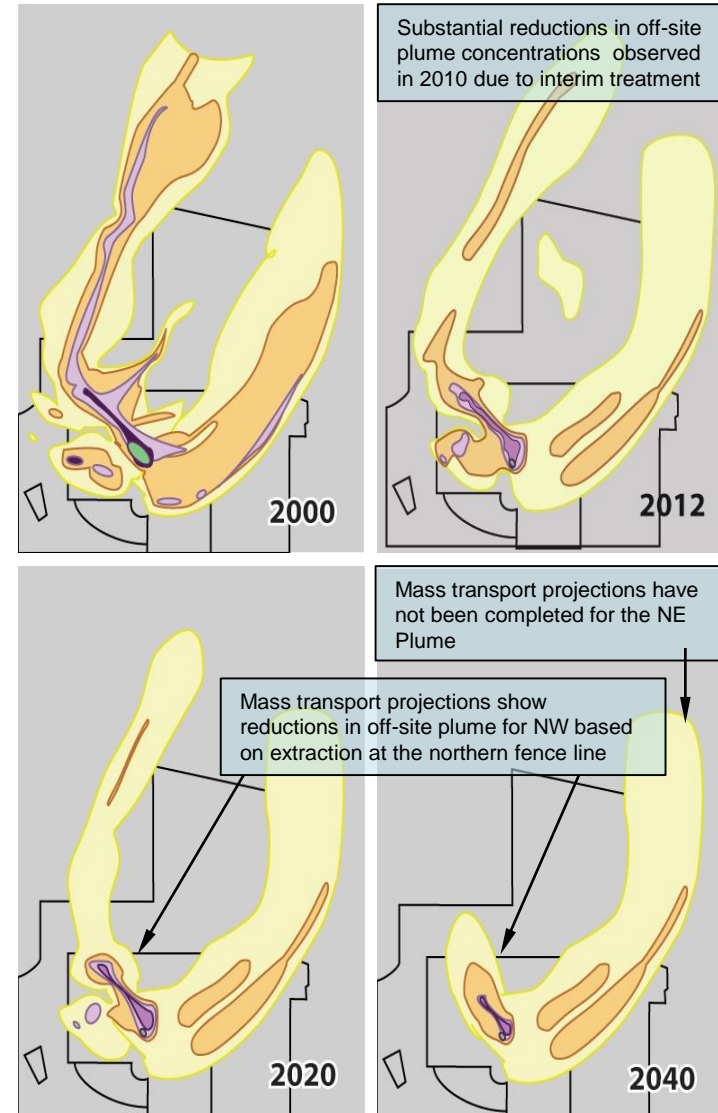


Southwest Plume – Oil Landfarm

- Deep Soil Mixing – Field work scheduled to begin in Summer 2014
- Augers will inject reactive iron to mix with soils to depth of approximately 60 ft.

Plume Optimization

- Two new wells installed in 2010 greatly increased the capture rate of TCE in the Northwest plume to nearly 100 percent, thereby reducing off-site migration.
- Similar pump-and-treat optimization is planned for 2014 to improve TCE removal in the Northeast plume.
- Optimization includes strategically positioning 2 extraction wells and up to 18 monitoring wells.
- Design underway; fieldwork projected to start in 2014.



C-410 Feed Plant

- 160,000+ sq. ft., 7-story structure
- Removed >9,000 linear feet of UF6 piping/equipment
- Demo-ready status attained December 21, 2013

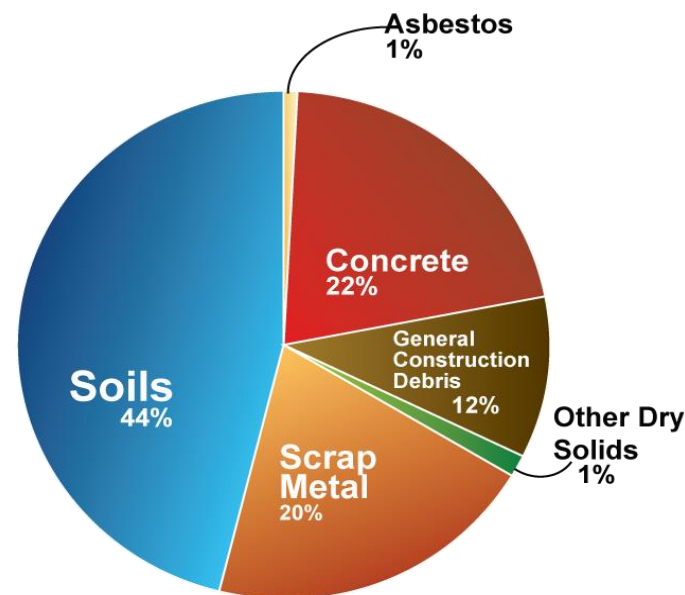


Waste Disposal Alternatives Evaluation

- Continued cleanup and D&D at Paducah is expected to generate over 3M cubic yards of waste material
- The anticipated waste from ER & D&D activities is being evaluated in a Remedial Investigation/Feasibility Study Report (D2 issued to regulators in July 2013) that examines three scenarios:
 - Waste disposal decisions project-by-project
 - Ship waste to licensed facilities off-site
 - Build an on-site engineered waste-disposal facility

All three scenarios assume recycling of eligible materials.

- Proposed Plan target: Spring 2014

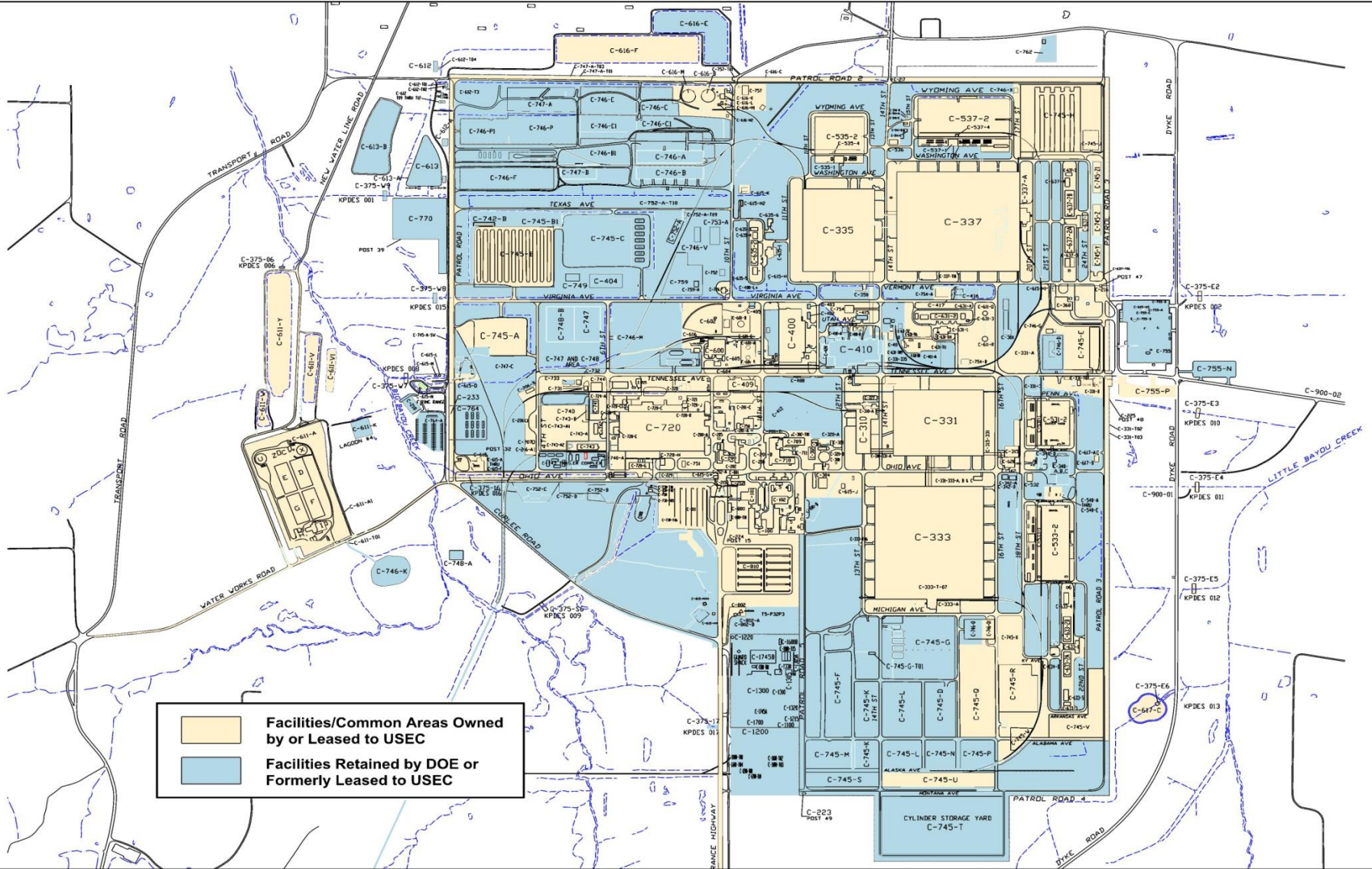




LATA Environmental Services
of Kentucky, LLC



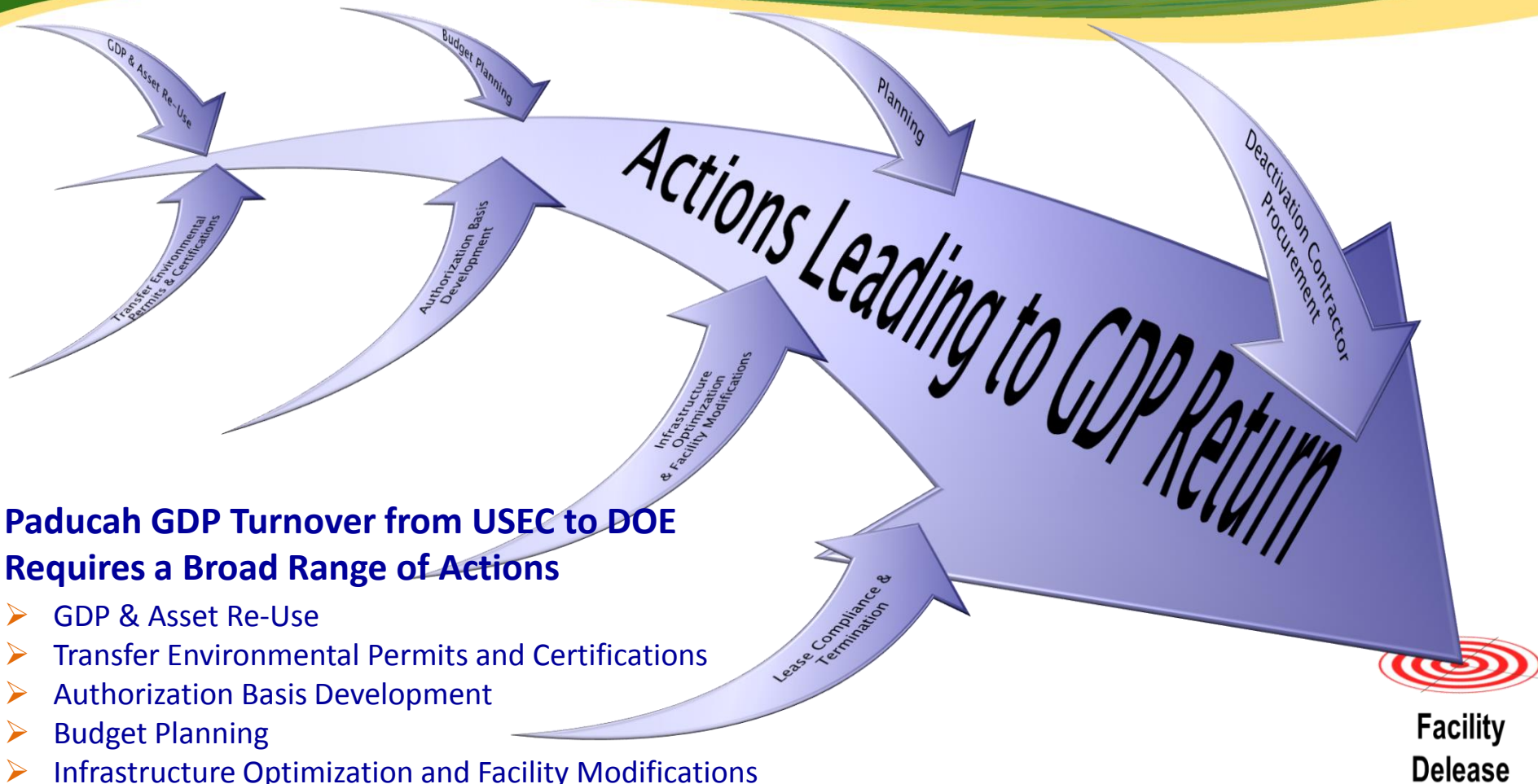
Paducah Facility Transition



Paducah Remediation Integration with USEC

- USEC currently provides various services to DOE/DOE contractors
- Key areas potentially impacted by USEC transition include:
 - Logistics & mutual site support services
 - Emergency response service
 - Site security – physical
 - Laundry
 - Analytical lab services
 - Criticality Accident Alarm System (CAAS) & Nuclear Criticality Safety (NCS) management
- Backup plans are underway to evaluate options/procure necessary services from different sources





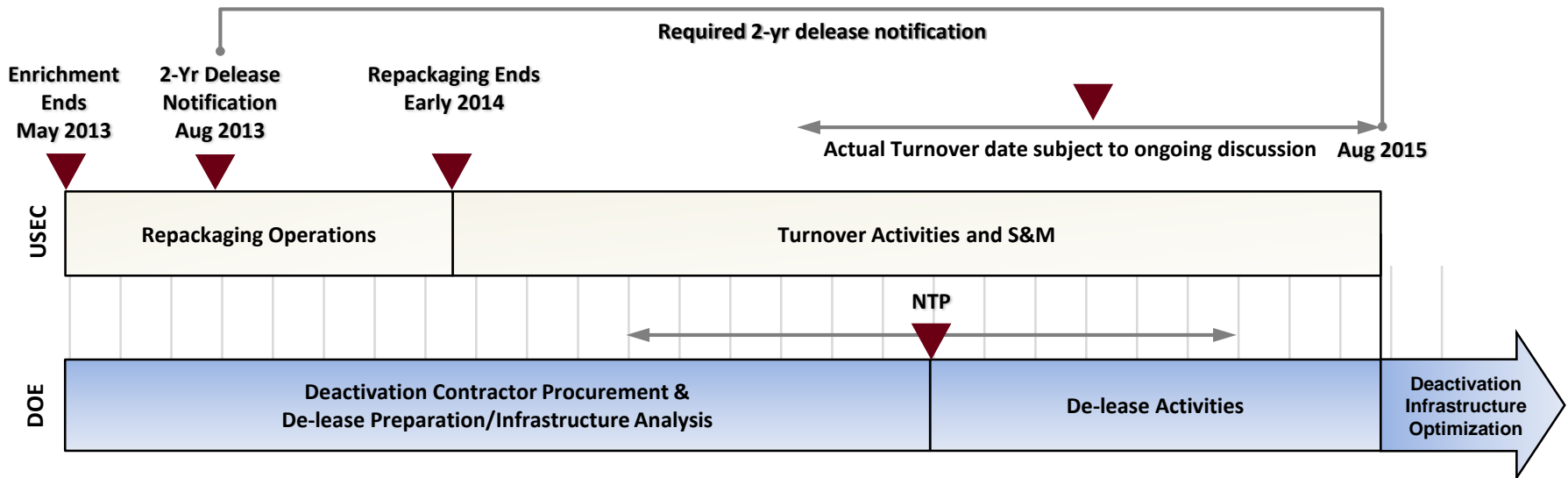
Paducah GDP Turnover from USEC to DOE Requires a Broad Range of Actions

- GDP & Asset Re-Use
- Transfer Environmental Permits and Certifications
- Authorization Basis Development
- Budget Planning
- Infrastructure Optimization and Facility Modifications
- Planning
- Lease Compliance and Termination
- Deactivation Contractor Procurement
- Facility Release

Short Term

- Transition GDP from NRC to DOE regulation.
- Complete required facility modification and utility optimization activities to align the site's infrastructure with planned mission needs.
- Complete natural uranium cylinder transfers.
- Prepare to safely maintain the facilities under DOE oversight while balancing deactivation, site cleanup and reutilization activities within funding constraints.

ID/IQ Deactivation Procurement

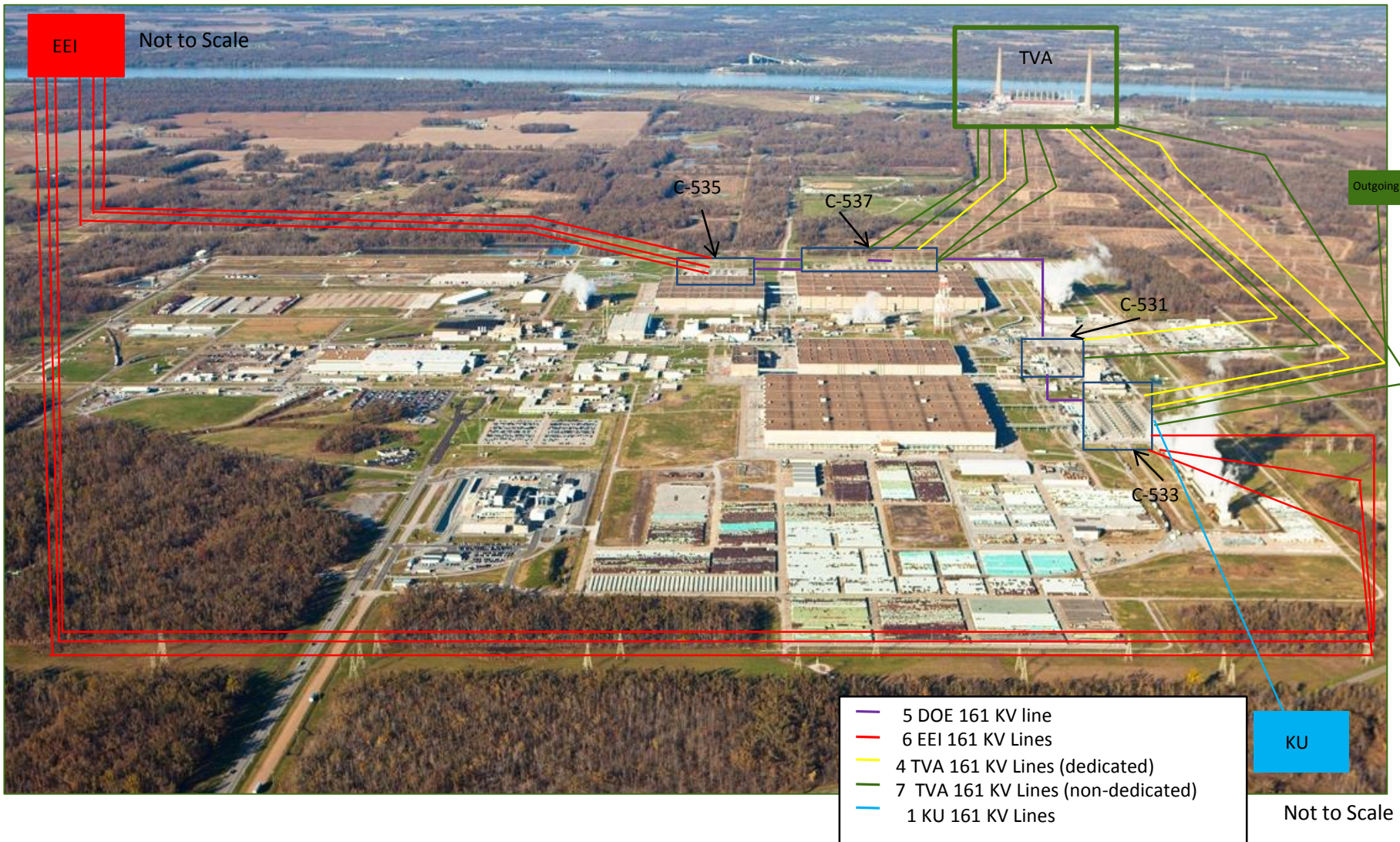


- DOE issued a Request for Task Proposal (RTP) for deactivation activities at the Paducah Gaseous Diffusion Plant (GDP) to address the return of the Paducah GDP facilities that are currently leased by the United States Enrichment Corporation (USEC)

Planning Activities Currently Underway to Assess a Wide Array of Issues, Problems, and Challenges

- Stakeholder Interaction
- Cost/Benefit Studies
- Integrated Planning, Accountability and Budgeting System (IPABS) Modifications
- Development of Federal Baseline
- NERC/FERC Analysis
- Thin-Walled Cylinder Transfers
- C-310 Purge Cascade Operational Restart
- Tc-99 Thermal Treatment
- Seals and Critical Components
- Uranium Deposit Removal
- PCB Oils Removal Disposition
- Facility and System Return Configuration
- Utility and Infrastructure Operations and Optimization Analysis

Current Electrical Configuration



Proposed Electrical Configuration



POWER SUPPLIER

C-535

C-537

C-531

C-533

Inactive Switchyard

— 1 or 2 - 161 KV lines come into one switchyard
— 2 new - 14 KV lines throughout plant

Not to Scale



Questions/Discussion