

LATA-KENTUCKY YEAR IN REVIEW

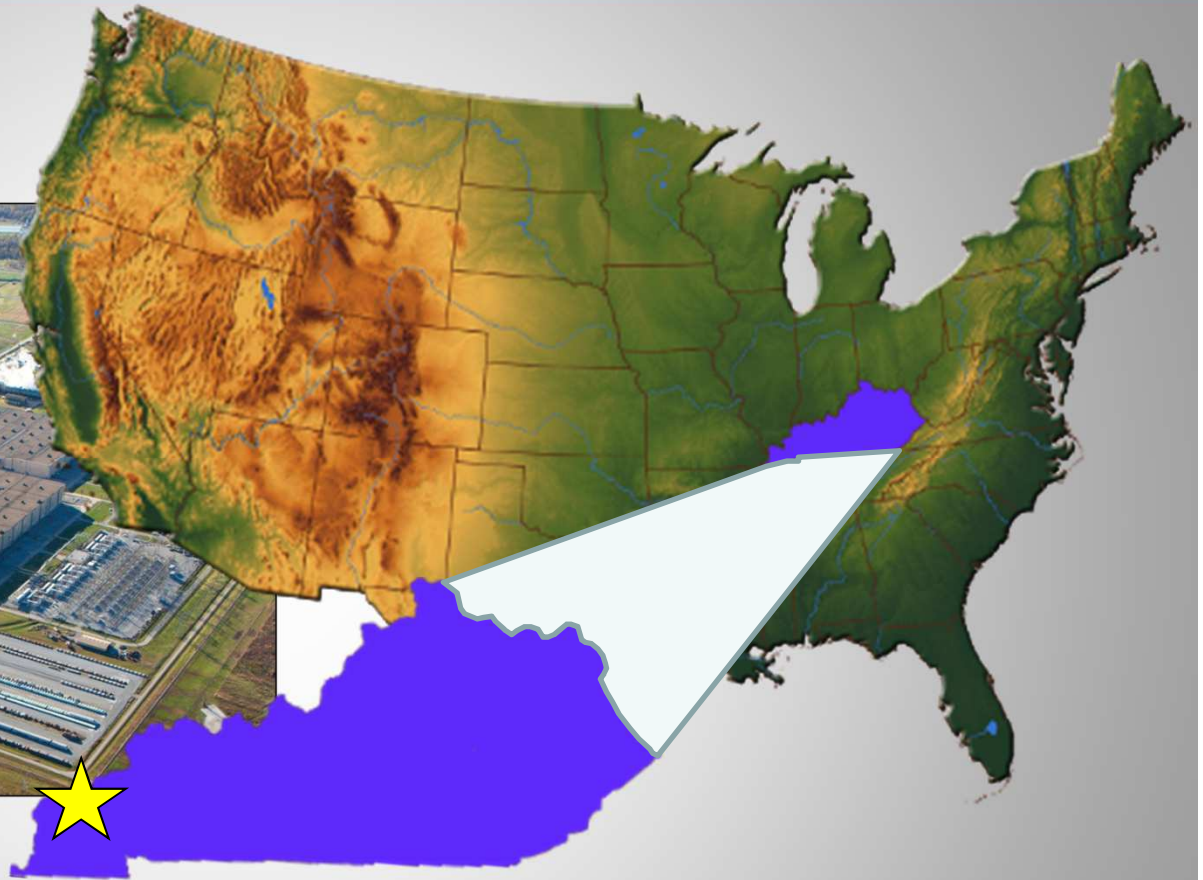


PRESENTED BY
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PADUCAH



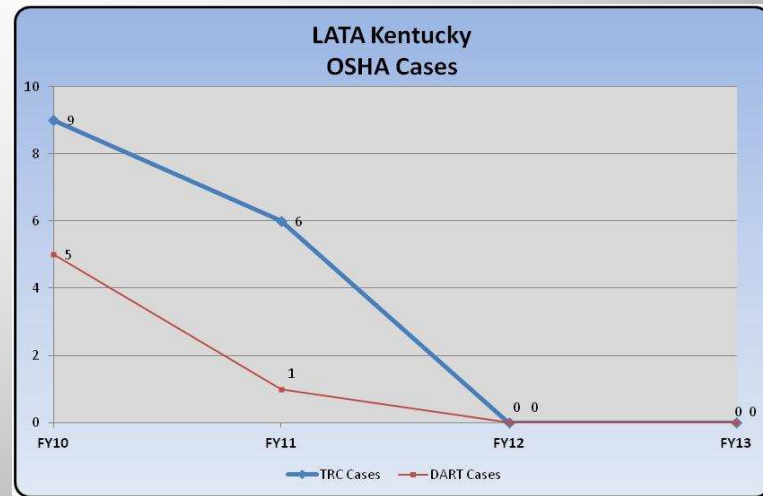
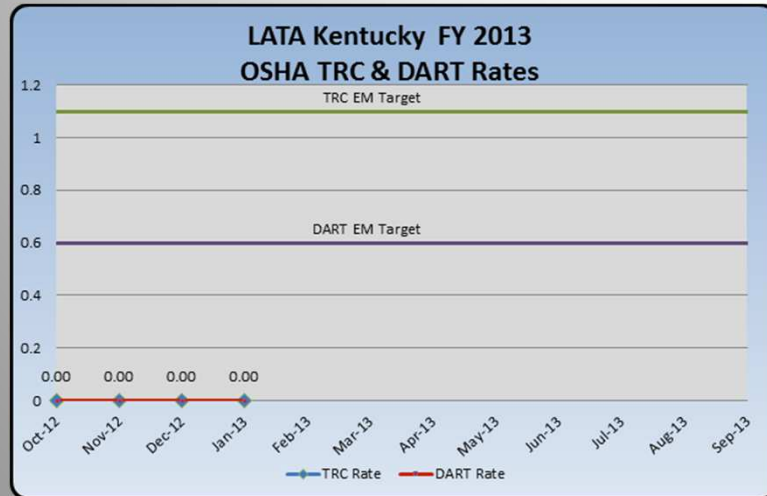
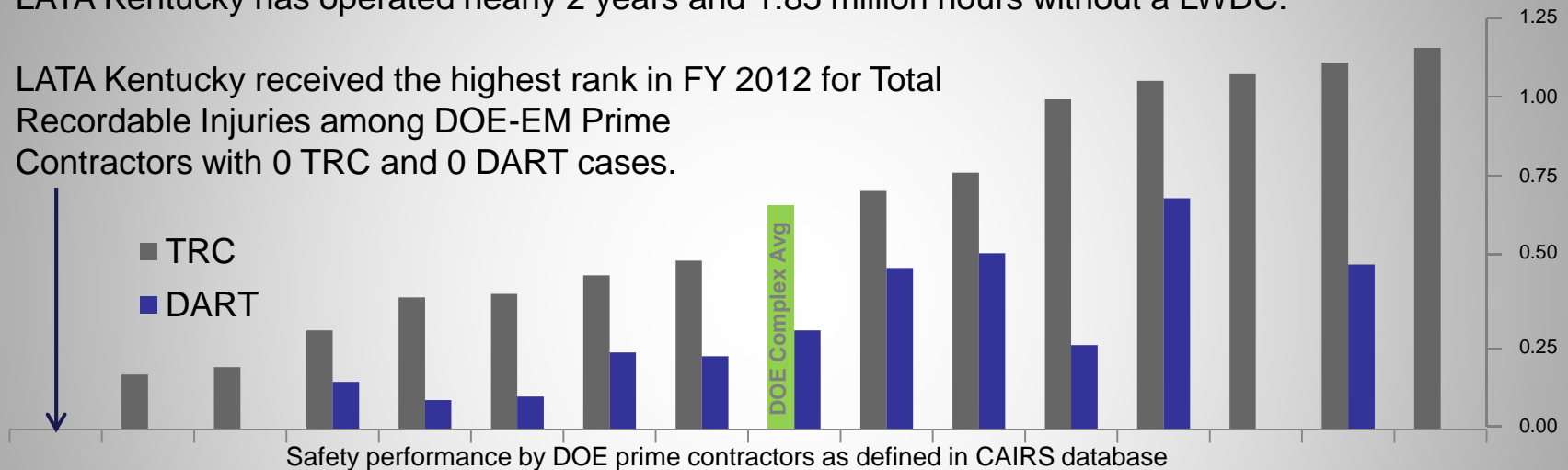
PADUCAH QUICK FACTS

- 3,500+ acre federal site
- Shared site with operating gaseous diffusion plant and DUF_6 conversion facility
- 1,800+ jobs for western Kentucky



SAFETY PERFORMANCE

- LATA Kentucky has operated nearly 2 years and 1.85 million hours without a LWDC.
- LATA Kentucky received the highest rank in FY 2012 for Total Recordable Injuries among DOE-EM Prime Contractors with 0 TRC and 0 DART cases.



CLEANUP SCOPE

Paducah Remediation Contract is organized into five primary operable units:

- Groundwater–Cleanup chief sources and mitigate off-site risk of contamination.
- Inactive Facilities–25 structures: 24 razed
- Burial Grounds–8 areas spanning ~86 acres
- Soils–66 areas totaling ~115 acres, grouped to gain efficiencies.
- Surface Water–About 6 miles of creeks and ditches.

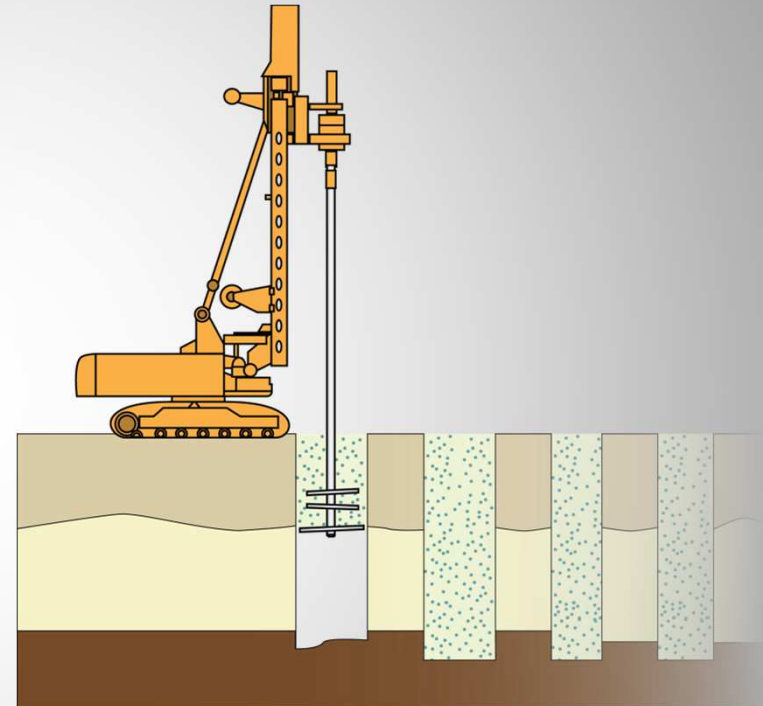


GROUNDWATER PROGRAM SOUTHWEST PLUME

- On-site SW Groundwater Plume
 - Waste oils containing TCE were biodegraded at landfarm (SWMU 1) from 1973-1979
 - TCE also in ground at two sites near C-720 Maintenance Building
 - TCE in shallow aquifer (20-60 ft) at all locations
- Soil testing done July-October 2012 to determine locations for deep soil mixing at oil landfarm



GROUNDWATER PROGRAM SOUTHWEST PLUME



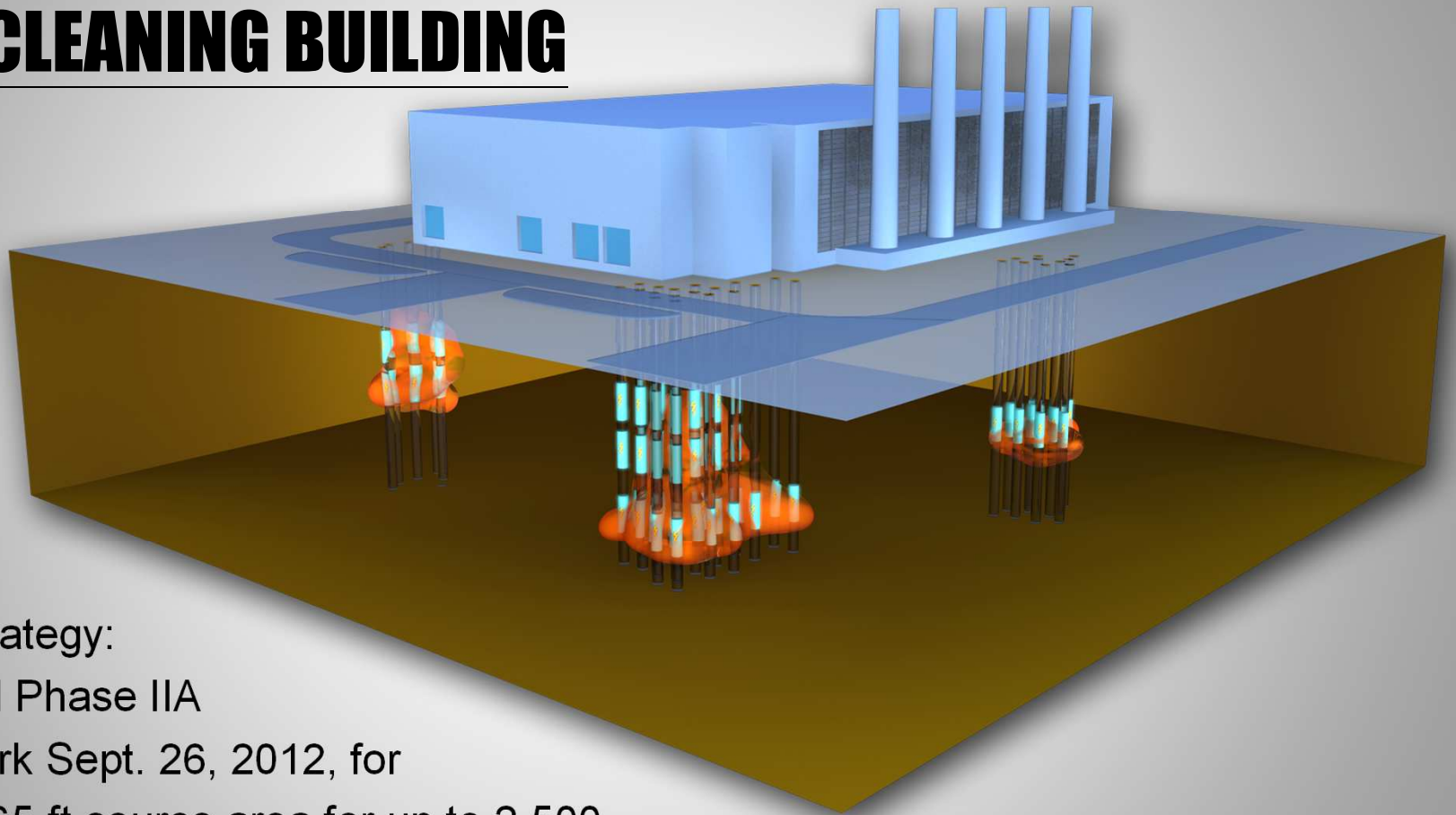
- Field work to clean up landfarm sources slated to start in September 2013
- Augers will inject reactive iron to mix it with oils to depth of about 50 ft
- Results of 2012 soil testing will be used to determine if bioremediation or long-term monitoring is needed at C-720 sites

GROUNDWATER PROGRAM **C-400 CLEANING BUILDING**



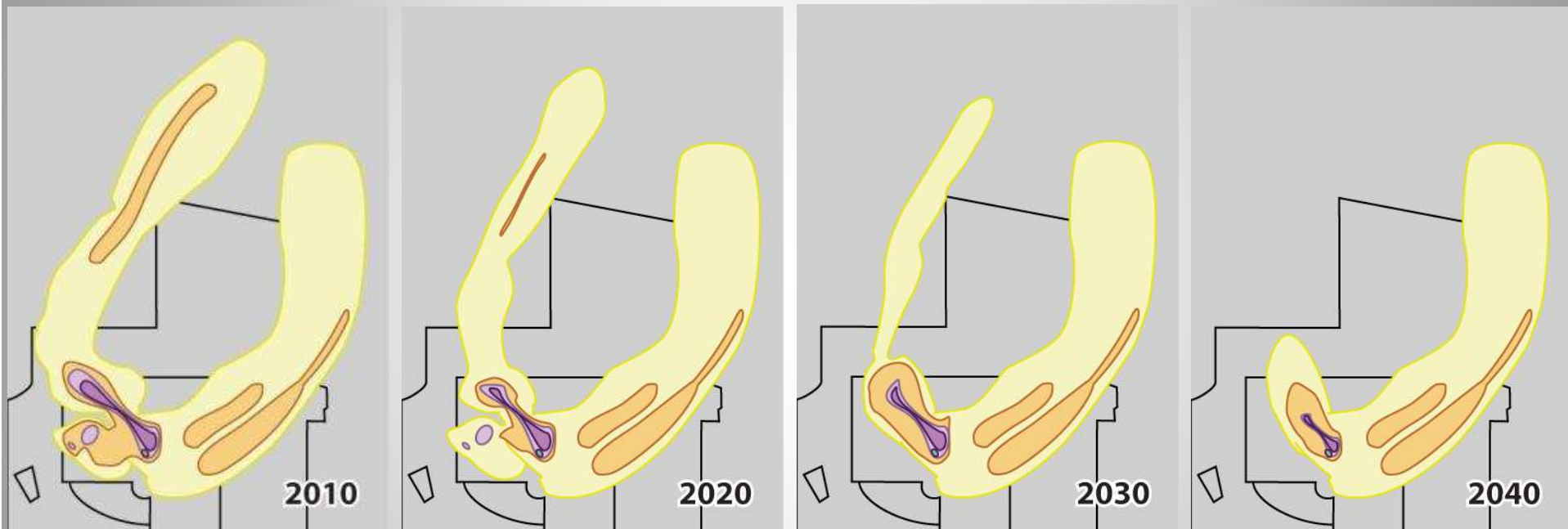
- 2,100 acres of contaminated groundwater extends off-site toward Ohio River.
- Cleanup will address both on-site sources and off-site risk.
- C-400 Cleaning Building source of trichloroethene (TCE).

GROUNDWATER PROGRAM **C-400 CLEANING BUILDING**



- C-400 strategy:
 - Started Phase IIA fieldwork Sept. 26, 2012, for upper 65-ft source area for up to 2,500 gals of TCE; system to be operational by summer 2013.
 - Continued Phase IIB technology evaluation for lower 60-100 ft; anticipate recovering up to 600-4,500 gals of TCE using chemical or steam treatment.

GROUNDWATER PROGRAM NORTHEAST PLUME OPTIMIZATION



- DOE currently provides municipal water to about 100 homes and businesses
- The optimization program will reduce the North East plume similar to our North West program to reduce offsite contamination



D&D PROGRAM C-340 METALS PLANT

- Demolition activities started September 2012 were completed February 12, 2013
- Subcontract for structural demolition awarded to LVI Services
- \$46.9M life cycle project
- 3,500 tons of waste, including 1500 tons of PCB contaminated debris
- 65,000 ft² 7-story structure



D&D PROGRAM C-340 METALS PLANT CHALLENGES

- Transite
 - Over 48,000 ft², ~ 1500 sheets removed from August 22nd – December 19th
 - Complete - over 100 tons of transite in landfill
- Risk of release of contamination beyond control boundaries
 - Continued concern from site workers expressed from downwind locations
 - 20 Monitors deployed around perimeter of ACM regulated to address potential disbursement beyond the Asbestos Regulated Area of C-340
- Reactor Towers/Bomb Furnace
 - Three reactor towers on 6th and 7th floors determined to include concealed asbestos underlayment in clamshell heaters around the tower



D&D PROGRAM C-410 FEED PALNT

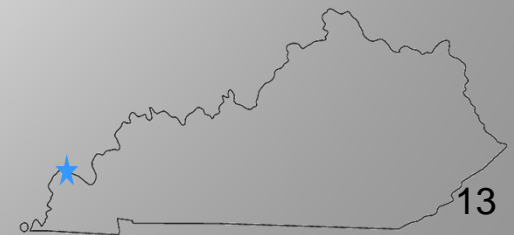
- \$107.9M life cycle project
- Over 160,000 ft², 7-story structure
- Removed > 9,000 linear feet of UF₆ piping/equipment
- Demo Ready status scheduled for May 2013
- 20 cold traps with significant quantities of UF₆ require critical lifts into containers for storage in CAT-2 facility on site.
- Similar technical challenges to C-340



D&D PROGRAM

Lessons Learned

- Furnaces, clams shell type heaters, insulated reactor vessels contain hidden layers of asbestos.
- Non-asbestos containing firebrick in heaters represent potential contamination release
- Building roofs may contain very light, easily dispersible insulation
- Basements and pits represent several challenges including:
 - Standing water on the slab hides these pits or trenches.
 - Generating potentially contaminated pits full of water
 - Runoff of contaminated rainfall and dust suppression water through cracks and sumps
- The fixative is effective at controlling airborne radiological contamination, BUT:
 - Paint chips and the fixative may become airborne in cold weather.
 - Use colored fixative different than base building paint.
 - Fixatives may become carcinogenic when heated
 - Limitations may apply on high reach demolition during periods of high winds



D&D PROGRAM

Lessons Learned

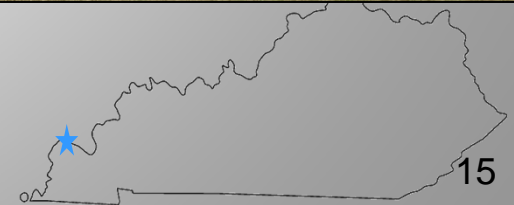
- Security issues need to be resolved to allow use of closed circuit camera on the high reach demolition equipment to improve operator visibility.
- Limitations on manlift basket capacity can provide challenges for transite removal.
 - Size of our transite sheets (about 40 square feet) exceeded manlift manufacturers size – required an Engineering evaluation to ensure safety of our approach.
 - Weight restrictions – weight of sheet of transite and 2 people can exceed capacity of some lifts.
 - Tools for cutting the lead heads are limited – we used bolt cutters.
- Cold weather demolition can significantly reduce efficiency and increase safety risks



LESSONS LEARNED FOR GDP TRANSITION

PCB Removal

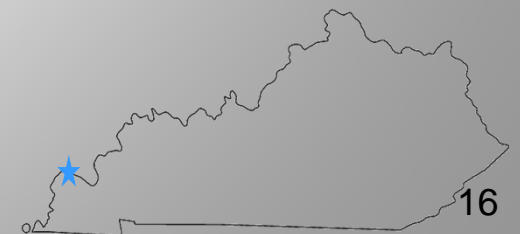
- Plant has PCB electrical equipment.
 - 275 large capacitors and 75 transformers.
 - Potential contamination indoor and outdoor due to spills and overfills.
- 6 buildings with PCB oil leaching through gaskets.
- 24 buildings with PCB gasket material.
 - Most admin buildings with PCB gaskets.
 - >16,000 collection troughs capture oil from PCB-impregnated gasket material in ductwork.



LESSONS LEARNED FOR GDP TRANSITION

PCB Removal

- PCB contamination will be widespread and remediation/maintenance programs will continue through demolition phases.
- C-340 Metals Plant included PCB contamination through 50% of the building.
- About 1,960 known PCB gasket spills on building floors since 1989.
 - Prior to 1989, floor sweepers were used to clean up spills.
 - Oil filled cable trays dried out.
- 1,100 gals of PCB oils from ventilation ducts contained over past 2 years.
- Generation will continue through oil seepage in PCB gasket materials.
 - Joints likely to open during cooling of HVAC and increase flow and extent of leakage.



PATH FORWARD

- Continued remediation cleanup and D&D at Paducah until 2039 is expected to generate up to 4M yd³ of waste
- The existing plant industrial landfill will be utilized to maximum capacity (~1M yd³)
- The remaining 3M yd³ of waste is being evaluated in a Remedial Investigation/Feasibility Study Report (D1 issued to regulators in May 2012) examines three scenarios:
 1. Waste disposal decisions project-by-project
 2. Ship waste to licensed facilities off-site
 3. Build an engineered waste-disposal facility on-site
- Proposed Plan target: Spring 2013
- Record of Decision target: Early FY14

