

Oversight News

Newsletter of the Commonwealth's Environmental Oversight of the Paducah Gaseous Diffusion Plant (PGDP)

Kentucky Department for Environmental Protection
Division of Waste Management
Hazardous Waste Branch
Paducah Gaseous Diffusion Plant Section

C-410 Update: Demolition Continues



C410 on May 12, 2014

Department of Energy (DOE) contractors are making highly visible progress on the removal of the C-410 Feed Plant. The Feed Plant is the last of 25 inactive facilities to be razed under the Decontamination and Decommissioning (D&D) Program for Inactive PGDP facilities that began in the late 1990s.

The C-410 complex converted uranium oxide to uranium hexafluoride (UF₆) that was then fed into the gaseous diffusion cascades. The complex began operations in 1952 and continued to operate through the mid-1960s, when it was placed in standby for several years. Since that time, UF₆ for the PGDP has been supplied by the Honeywell (Allied Signal) Me-

topolis, Ill., facility. The C-410 plant also operated for a brief period in the mid-1970s until final shutdown in 1977.

Substantial work on the interior of the facility to address infrastructure, stored material and hazardous material abatement has been ongoing since an Action Memorandum was signed by DOE in 2002. Beginning on March 31, DOE contractors began removing asbestos-cement (transite) siding panels from the structure. About 2,600 panels, each weighing about 175

pounds, are being carefully removed to ensure the asbestos is not rendered friable. Demolition of the structure began in mid-May.

The completed removal of the C-410 facility, along with the 24 other

inactive facilities removed to date, will mark a significant milestone for the PGDP clean-up effort. While there have been delays along the way, the D&D program has also benefited from acceleration in the schedules made possible with earmarked American Reinvestment and Recovery Act funding. D&D for inactive facilities was originally projected for completion in 2017.

C410 on May 28, 2014



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A Late Winter Walk in the Woods



A late winter walk in the woods provides us the opportunity to look a little deeper, when the land is bared of its concealing foliage. There is always something interesting to find, whether it is shelf fungus on a rotting log or an early attempt at a tree stand, long forgotten and grown into the tree. Agreement in Principle (AIP) staff took several late winter walks in the woods to inventory the 82 environmental indicator (EI) warning signs along Little Bayou Creek and Bayou Creek.

Currently, DOE has two, often overlapping, warning sign programs: Surface Water Interim Corrective Measures (ICM) and the Government Performance and Results Act (GPRA). ICM warning signs were placed along creeks and ditches in the West Kentucky Wildlife Management Area in 1993 to warn the public of potential dangers posed by contaminated water and sediments. EI signs were added in 2008 to comply with GPRA, which holds federal agencies accountable for using resources wisely and achieving program results. The two environmental indicators are (1) *groundwater contamination migration under control* and (2) *human exposure under control*. DOE's decision to erect the EI warning signs was instrumental in allowing Kentucky to certify that human health exposures at the PGDP are under control. The latest five-year CERCLA review of completed actions at the facility recommends that the two sign programs be merged by replacing the ICM signs with the newer EI signs.

The late winter walks in the woods served to verify that all EI signs are present and in



Tree stand?

good condition. DOE will continue to inspect the signs at regular intervals and will repair them if necessary.



Rotting log

UK Water Level Monitoring Wells Removed

Ten piezometers (water level monitoring wells) were recently abandoned by Chase Environmental under contract with Kentucky AIP. The abandonment was observed by Kentucky AIP staff. All ten piezometers were located in close proximity to Bayou or Little Bayou Creek. The University of Kentucky originally installed



the piezometers during the 1990s to assess the interaction between groundwater and the creeks. The piezometers had not been used for several years and were in a state of disrepair. Abandonment protocol includes removing all above-ground portions of the well after filling the below-

ground portions with bentonite (clay) chips. The purpose of the clay chips is to seal (by expansion) the subsurface void spaces left once the piezometer has been removed. The locations where the wells once existed have now been restored.



C-400 Update Phase 2A

Following a brutal winter that took its toll on the equipment and project manager’s nerves, the C-400 Electrical Resistance Heating (ERH) remedy is performing well. ERH was the technology selected for use at the southeast corner of the C-400 Building where significant quantities of trichloroethene (TCE) have entered the subsurface soils. Since mid-January, the ERH system has remained operational 95 percent of the time allowing average subsurface temperatures to increase toward an

approximate goal of 194 F. Only the uppermost and lowermost portions of the approximately 60-foot-thick heated zone have yet to achieve target temperatures in discrete areas. The elevated temperatures combined with efficient extraction of TCE vapor have allowed the system to extract over 1,000 gallons of TCE from the ground.

During the course of this project, DOE has remained in regular contact with Kentucky and EPA, providing updates

as the project progresses. The latest update in early May of this year suggests that the ERH system is coming close to achieving its goals. DOE has explained that the upper portion of contaminated soil is taking longer to heat due in part to a desire to avoid any complications associated with raising temperatures too rapidly near existing subsurface infrastructure. Temperatures have also been rising more slowly near the bottom of the 60-foot soil interval along the periphery of the treatment zone. However, temperatures are improving as additional

power is added to this zone.

DOE will begin to consult more frequently with Kentucky and EPA as temperatures begin to stabilize and contaminant recovery levels begin to level off, signaling that the system has reached peak effectiveness. Soon thereafter, a decision will be made to discontinue heating. DOE and the regulators will then be able to focus their full attention on the next phase of the remedial action which will address TCE contamination at greater than 60 feet below the surface.

Kentucky Department for Environmental Protection

Paducah Gaseous Diffusion Plant Section
200 Fair Oaks Lane, Frankfort, KY 40601

Phone: 502-564-6716 , ext. 4690
Web: waste.ky.gov

The mission of the Kentucky Division of Waste Management is to protect human health and the environment by minimizing adverse impacts on all citizens of the Commonwealth through the development of fair, equitable, and effective waste management programs.



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Kentucky Environmental Oversight News is published quarterly by the Kentucky Department for Environmental Protection’s Division of Waste Management. It features information regarding environmental cleanup activities at the Paducah Gaseous Diffusion Plant site and related topics. Additional information is available from:

Todd Mullins, Section Supervisor PGDP Section, Kentucky Division of Waste Management, 200 Fair Oaks Lane, Frankfort, KY 40601. 502-564-6716.



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