

# PCB oil removed using a unique approach

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*Staff report*



When operating, one transformer could distribute enough electricity to power approximately 6,300 average-size homes.

The U.S. Department of Energy and its contractors at the Paducah Gaseous Diffusion Plant used a unique method to remove and dispose of PCB oil taken from transformers at the site.

For more than 60 years, 60 electrical distribution transformers supplied some of the power to enrich uranium at the Paducah site. Each transformer supplied enough electricity to power four 3,000-horsepower motors, which is equivalent to providing electricity to 6,300 average size homes.

The transformers contained oil with polychlorinated biphenyl (PCB), which helped with electrical insulation properties and cooling of internal parts while also being non-flammable. After the PGDP ceased operations, the transformers were disconnected from the power system, and the PCB oil was safely drained, shipped, and dispositioned.

"The removal of the PCB oil from the large transformers was a priority due to its potential impact on human health and the environment," said Paducah Site Lead Jennifer Woodard, of the DOE's Portsmouth/Paducah project office. "Removing the PCB-containing oil from the

transformers advances DOE's goal of protecting the environment and workers while preparing the plant for future demolition."

PCB-containing oil from the transformers was drained into totes. The oil later was pumped into a tanker truck for off-site disposition.

In compliance with EPA regulations, the Fluor Paducah Deactivation Project initiated removal of PCB oil from the transformers in early summer 2015. To ensure all PCB oil has been removed from the transformers, EPA regulations required that the transformers be rinsed.

Rather than purchasing a rinsing agent, such as kerosene, lube oil already at the site and also scheduled for disposal, was used. The idea resulted in a savings of approximately \$500,000, and allowed an existing product to be reused before its disposal.

"We were pleased we were able to bring forward a unique idea that recycled an existing product on the site," said Bob Nichols, Fluor Paducah Deactivation Project deputy program manager. "This ultimately saved DOE money that can be pumped back into the project."

The last shipment of the nearly 100,000 gallons of transformer oil and 113,000 gallons of the rinsing agent were shipped off-site on Dec. 31, 2015, for disposal, completing the project ahead of schedule.