

Summer 2020

Oversight News

Newsletter of the Commonwealth's Environmental Oversight Section for the Dept. of Energy's Paducah Site



*Kentucky Department for Environmental Protection
Division of Waste Management
Hazardous Waste Branch
Paducah Site Section*

PACRO Recycles Transformer Oil from Former Switchyards, Benefits Community

The Paducah Area Community Reuse Organization (PACRO) is the entity designated by the DOE to identify and reuse assets, and to help offset the loss of jobs and economic impact. There are four switchyards located at the Paducah Gaseous Diffusion Plant (Paducah Site), the C-531, C-533, C-535 and C-537; each switchyard contains roughly 90 transformers. During Paducah Site enrichment operations, electrical consumption amounted to approximately the same amount of electricity as a large metropolitan city (e.g. St. Louis, Washington DC). Each transformer is roughly capable of providing power to the city of Paducah. PACRO recently partnered with Four Rivers Nuclear Partnership (FRNP) to perform contracting assistance to attain a company capable of performing the scope of work. In 2019, PACRO sold approximately 200,000 gallons of recycled (non-PCB) oil and recycled metals and equipment from two of the four switchyards. Sale of the oil generated \$186,886, which is the largest project PACRO has performed to date.

The current demand for electricity needed to support future Paducah Site missions (e.g. environmental cleanup) will only require a small fraction of what was necessary when it was enriching uranium. As a result, all four of the switchyards are slated for

decommissioning and dismantling. Construction of a new Tennessee Valley Authority (TVA) substation is underway and nearing completion. Work began in July 2019, but was halted on March 23, 2020 due to the COVID-19 pandemic. Work resumed in June 2020. The new substation is adequately configured for decades of future cleanup operations and replaces antiquated and over-sized equipment. More importantly, the upgrade will allow for the removal of the Paducah Site's four massive switchyards from the United States National Power Grid. That's right, the Paducah Site used so much energy and was configured in such a way that it is still part of the National Power Grid, which requires many safeguards and securities that are expensive and laborious to maintain. The newly constructed TVA substation will drastically cut operating costs by officially removing it from the National Power Grid.



Construction of the TVA Substation
July 2020 (Photo Courtesy of KDWM)

Inside

**Implementation of the
ROD for Disposition of
Depleted Uranium Oxide**
Pg. 2

EPA Personnel Changes
Pg. 3

Implementation of the Record of Decision for Disposition of Depleted Uranium Oxide Conversion Product Generated from Department of Energy's Inventory of Depleted Uranium at the Paducah Site

On June 5, 2020, the *Record of Decision for Disposition of Depleted Uranium Oxide Conversion Product Generated from Department of Energy's Inventory of Depleted Uranium* was released in the Federal Register. DOE has made the decision to disposition depleted uranium oxide (DUO_x) from the Paducah (KY) and Portsmouth (OH) sites, if declared a waste, at one or more of the following disposal sites:

- EnergySolutions, a low-level radioactive waste (LLW) disposal facility near Clive, Utah;
- Waste Control Specialists, LLC., an LLW disposal facility in Andrews, Texas; and
- a DOE-owned LLW disposal facility at the Nevada National Security Site in Nye County, Nevada.

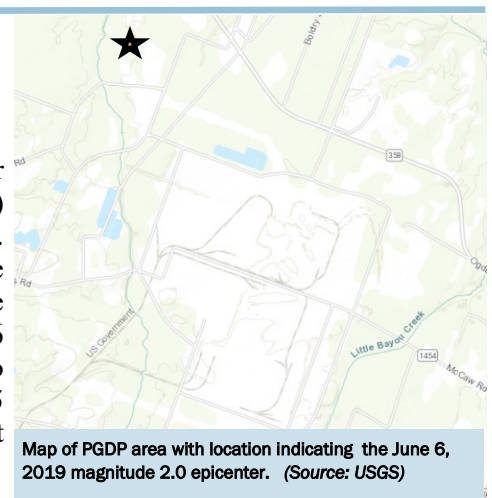
Depleted uranium oxide results from the conversion of depleted uranium hexafluoride (DUF₆), which is a product of the gaseous diffusion process used to enrich uranium. The DUF₆ Conversion Facility at the Paducah site began operation in early 2011, and its function is to convert DUF₆ to depleted uranium oxide, a more stable and less toxic form. Once converted, the DUO_x could be either reused as feedstock in the future or disposed of. DOE intends to utilize authorized disposal facilities for initial shipments and is planning a pilot project in the next year to ship several railcars containing cylinders of DUO_x to one of the commercial disposal facilities. If sent for disposal via railway, each gondola railcar will contain up to six cylinders affixed with protective lids.

The Paducah Site's inventory contains approximately, 512,600 metric tons of DUF₆ in about 42,100 cylinders. There are two types of cylinders, a 10-ton thick-walled cylinder weighing 4,500 pounds (20,000 pound DUF₆ capacity) and a 14-ton thin-walled cylinder weighing 2,600 pounds (28,000 pound DUF₆ capacity). After conversion, each DUO_x cylinder weighs approximately 12 tons. To date, the Paducah Site has converted approximately 6,700 cylinders of DUF₆ into 6,200 DUO_x cylinders. Currently, the DOE complex has approximately 730,000 metric tons of unprocessed DUF₆ stored in approximately 60,400 cylinders. Removal of DUF₆/DUO_x from DOE facilities addresses their commitment to reduce immediate and future risk to workers and the surrounding community.



One Year Anniversary of Magnitude 2.0 Earthquake Near PGDP

Earthquakes occur when two blocks of the earth suddenly slip past one another resulting in ground movement. The U.S. Geological Survey (USGS) preliminarily reported a 2.4 magnitude earthquake on June 6, 2019 at 6:34 PM. After the initial seismograph data was analyzed by the USGS the earthquake was downgraded to 2.0. The epicenter of the earthquake was located in close proximity, northwest of the Paducah Site at a depth of approximately 1.86 miles below the ground surface. The earthquake was relatively weak with no reported damage to surface structures. Earthquakes that measure less than 2.5 in magnitude are typically not felt by people. The USGS estimates that 900,000 of these low magnitude earthquakes occur annually.



EPA Personnel Changes

Since July 2019, **Victor L. Weeks** has been preparing to assume the EPA FFA project manager’s role for the Paducah Site, effective on June 26, 2020. Since graduating from college in 1987, he has worked for the U. S. Environmental Protection Agency R4 located in Atlanta, Georgia. Victor’s first EPA assignment was to develop the hazard ranking packages in support of CERCLA National Priorities List proposed listings for several R4 federal facilities. His initial EPA program position was to serve as the Federal Facility Agreement (FFA) project manager overseeing the cleanup for DOE’s Savannah River Site. After five years in that role, Victor was reassigned to serve as the Oak Ridge Reservation FFA project manager. In 1998, he changed EPA career paths to serve as the R4 Chemical Emergency Preparedness and Prevention Coordinator, responsible for working with state and local jurisdictions, and industry in process safety management to prevent, minimize, and respond to chemical accidents at industrial operations. More recently, Victor was reassigned back to his original career role as a Remedial Project Manager in overseeing cleanup at DOE facilities.

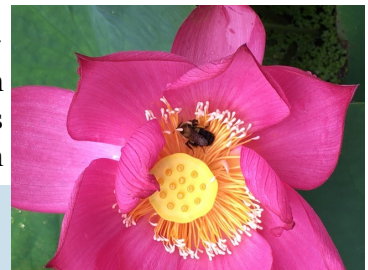


Victor with his wife, Sharon (left), daughter, Sarah, and family best friend, Baxter.



Julie Corkran, Ph.D., retired on June 30, 2020 after 30 years of combined state and federal service with Ohio EPA, ATSDR and EPA Region 4. Julie served as EPAs Remedial Project Manager and FFA Manager on the Paducah Site for more than five years.

Julie provided pictures from her beautiful garden where she is now able to spend more time.



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 DOE Paducah Site and related topics. Additional information is available from:

Brian Begley, P.G., FFA Manager
 Supervisor Paducah Site Section,
 Kentucky Division of Waste Management,
 300 Sower Boulevard, Frankfort, KY 40601.
 Phone: 502-782-6317
 E-mail: Brian.Begley@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.



Acknowledgement: This material is based upon work supported by the Department of Energy under Award Number DE-EM0005189.

Disclaimer: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

The Kentucky Department for Environmental Protection does not discriminate on the basis of race, color, religion, sex, ancestry, age, disability or veteran status. The department provides on request, reasonable accommodations necessary to afford an individual with a disability an opportunity to participate in all services, programs, and activities. To request materials in an alternate format, please call 502-782-6317. Persons with hearing and speech impairments can contact the agency using the Kentucky Relay Service, a toll-free telecommunication device for the deaf (TDD). For voice to TDD, call 800-648-6057. For TDD to voice, call 800-648-6056.