

For Immediate Release
Date: February 14, 2019



Media Contact: Erik Simpson, (208) 390-9464

New Spent Nuclear Fuel Buckets at INL Site Extend Storage Facility's Mission

IDAHO FALLS, Idaho – Fluor Idaho, cleanup contractor at Department of Energy's Idaho National Laboratory Site, recently created new fuel buckets that allow it to store more Advanced Test Reactor spent nuclear fuel elements in the remaining space of a dry storage facility.

Using creative geometry, Fluor Idaho engineers, criticality safety and thermal analysis experts, operations personnel and fabricators developed a four-compartment stainless-steel bucket that fits inside each fuel canister to provide for the storage of 24 ATR spent fuel elements per canister at the Irradiated Fuel Storage Facility of the Idaho Nuclear Technology and Engineering Center. Previously, only 16 ATR spent fuel elements fit in a fuel canister, which measures 18 inches in diameter and 10 feet, 9 inches in length.

The fuel storage facility is currently at 93-percent capacity. The Fluor Idaho Spent Nuclear Fuel Program needed to maximize the facility's unused space so it can transfer the remaining spent nuclear fuel from a pool storage basin to dry storage by 2023 to comply with an Idaho Settlement Agreement milestone.

It took several months to complete designs, conduct engineering analysis and refine the fabrication process for the new fuel bucket, said Russ Cottam, manager of Fluor Idaho's spent nuclear fuel projects.

"When the first production buckets were fabricated and passed the stringent inspections, we knew we had succeeded," he said.

The new bucket is segmented differently than the previous version, allowing fuel handlers to stack spent fuel elements in different configurations, resulting in more of the elements being loaded in the same amount of space.

"After verifying that four new fuel storage buckets could be adjacently configured inside a fuel canister, the spent nuclear fuel program knew the goal to extend the mission of the dry storage facility was achievable," said Fluor Idaho ATR Wet-to-Dry Project Manager Roger Friesz. "It was certainly a reason to celebrate the hard work of the many who were involved along the way."

This innovative approach to spent nuclear fuel storage, combined with analyses that permit a shorter cooling period for the fuel in an existing dry storage facility, will extend the storage capacity of the INL Site's dry storage facility. It will also contribute to the ATR mission by simplifying the process for storage and reducing costs of ATR spent fuel movements and storage.

Fluor Idaho, LLC is a wholly owned subsidiary of Fluor Corporation with subcontractor partners CH2M, North Wind Inc., North Wind Portage, and Waste Control Specialists. Fluor Idaho manages the Idaho Cleanup Project Core contract at the Department of Energy's Idaho National Laboratory Site located 45 miles west of Idaho Falls. The 5-year, \$1.4 billion project, funded through the U.S. Department of Energy's Office of Environmental Management, focuses on early risk reduction and protection of the Snake River Plain Aquifer.

For more information visit the Idaho Cleanup Project on the Web at <https://fluor-idaho.com>