IDAHO CLEANUP PROJECT

"The Idaho Cleanup Project continues to make strides toward completion of the environmental cleanup mission at the Idaho National Laboratory Site. Our crews continue to advance the completion of our remaining work scope, including spent nuclear fuel transfers from wet to dry storage, buried waste retrievals from the Subsurface Disposal Area, continued disposition of transuranic waste at WIPP, and the startup of the Integrated Waste Treatment Unit. I am very appreciative of my team and our contractor partners, and their continued focus toward our end state vision."

– *Connie Flohr, Manager, Idaho Cleanup Project*

HIGHLIGHTS

- Drove to the finish line at the Accelerated Retrieval Project (ARP) IX facility, leaving just 0.12 acres of buried TRU waste left to remediate.
- Completed a total of 6,590 shipments of TRU waste to WIPP, representing more than half of all shipments to the repository.
- Idaho Cleanup Contract awarded – an EM 2021 priority.
- Removed waste, equipment and debris from a combined area of 179,000 square feet at the Advanced Mixed Waste Treatment Project's (AMWTP) Transuranic Storage Area/Retrieval Enclosure in support of RCRA closure.
- Continued fabricating and testing specialized equipment designed to transfer a dry, high-level radioactive waste called calcine from one storage bin to another in support of a 2035 milestone with the state of Idaho.
- Completed more than 50 equipment modifications at the Integrated Waste Treatment Unit (IWTU) focused on contamination control and off-gas filters during a two-year outage.
- Completed all 58 Experimental Breeder Reactor-II (EBR-II) transfers to the Radioactive Scrap and Waste Facility (RSWF) and all 12 EBR-II transfers to the Fuel Conditioning Facility at the Materials and Fuels Complex.

IWTU COMPLETES MODIFICATIONS, PREPARES FOR CONFIRMATORY RUN

The IWTU is a first-of-a-kind facility that will treat approximately 900,000 gallons of liquid radioactive and hazardous waste that has been stored in underground tanks. In addition to new ceramic filters, a wet and dry decontamination system, and robotic arms in the canister fill cells, the IWTU underwent several other modifications during its recently completed two-year outage as it moved toward the start of radiological operations expected in 2022. The modifications are designed to prevent the spread of contamination, enhance operability, and improve reliability to support sustained operations. Some examples include heating, ventilation, and air conditioning, or HVAC, modifications, a personnel decontamination station, canister fill system enhancements, floor coatings and repairs, upgrades to emissions monitoring systems, the addition of a permanent simulant storage/delivery system and plant compressed air modernization.

Crews are currently preparing for a 50-day confirmatory run at the IWTU to test the new equipment and to demonstrate that the facility and personnel are ready to begin radiological operations.

SPENT NUCLEAR FUEL TRANSFERS CONTINUE

EM continued transferring spent nuclear fuel from a water-filled basin at the Idaho Nuclear Technology and Engineering Center to dry-storage vaults at the RSWF of the Materials and Fuel Complex. Crews completed 58 spent nuclear fuel moves in support of the 1995 Idaho Settlement Agreement, which requires all EM fuel to be transferred to dry storage by 2023.

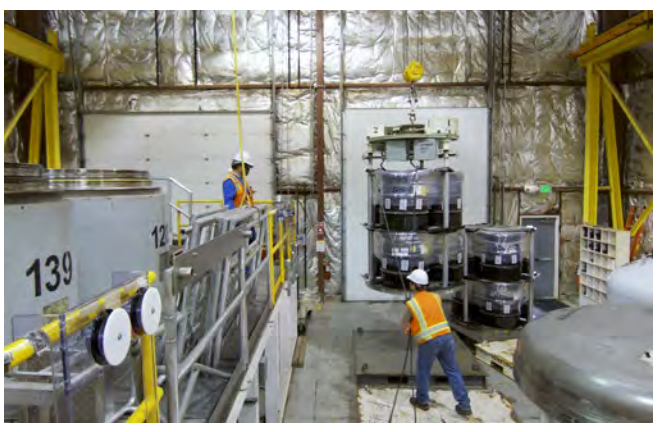
A mechanical engineer inspects calcine retrieval technology.

TRANSURANIC AND LOW-LEVEL RADIOACTIVE WASTE DISPOSITION

The Carlsbad Field Office approved the certification of three lots of TRU waste consisting of 2,238 drums stored at AMWTP. The amount of waste equates to six shipments a week to WIPP through February 2022.

AMWTP's Treatment Facility began treating and repackaging potentially reactive and pyrophoric waste materials stored in approximately 500 drums from the former Rocky Flats Plant. Crews continue to treat sludge waste at the ARP VII facility. At the end of September, more than 550 containers of sludge remained to be treated. Treatment of the sludge waste in both the AMWTP Treatment Facility and ARP VII will continue into 2022. Following treatment and repackaging, this TRU waste will undergo final characterization and certification for disposal at WIPP.

The Waste Generator Services program instituted several COVID-19 safety protocols to allow it to continue to ship LLW/mixed low-level radioactive waste (MLLW) to three off-site repositories in support of the Idaho Settlement Agreement.



Workers prepare a TRUPACT-II container for shipment to WIPP.

ENVIRONMENTAL RESTORATION PROGRAM SUCCESSES

The Environmental Restoration Program completed a five-year review of Comprehensive Environmental Response, Compensation, and Liability Act's (CERCLA) ongoing and completed remedial actions which concluded that CERCLA remedies remain protective of human health and the environment.

Since 1996, three vapor vacuum treatment units at a former radioactive and hazardous waste landfill have used high-pressure vacuums to remove and destroy approximately 258,000 pounds of solvent vapors. Almost a year after shutting off the three vapor vacuum treatment units, evaluation of the analytical data indicates that cleanup objectives have been achieved early, reducing potential threats to the underlying Snake River Plain aquifer.

A new in situ bioremediation treatment well went into service to help EM enhance groundwater treatment of a hazardous solvent from the underlying aquifer near Test Area North. This new well will advance the treatment in order to meet the CERCLA remedial action objectives.

The DOE ICP obtained initial approval and line-item funding for a new CERCLA disposal cell. The proposed new cell is needed to provide increased capacity for on-site disposal of wastes generated from CERCLA and deactivation and decommissioning activities on the Idaho National Laboratory (INL) Site. The Idaho CERCLA Disposal Facility provides a central containment of CERCLA-generated waste for long-term protection of human health and the environment.

Crews drill a new well near Test Area North at the INL Site.