

Idaho Cleanup Project

Overview

The INL Site was established in 1949 as the National Reactor Testing Station. The original mission of the INL Site was to develop and test civilian and defense nuclear reactor technologies and manage SNF. Fifty-two reactors — most of them first of a kind — were built at the site, including the Navy's first prototype nuclear propulsion plant. Of the 52 reactors, four remain in operation.

In 1951, the INL Site achieved one of the most significant scientific accomplishments of the century — the first use of nuclear fission to produce a usable quantity of electricity at the Experimental Breeder Reactor No. 1 (EBR-I). The EBR-I is now a registered National Historic Landmark open to the public.

The Idaho Cleanup Project (ICP) at the INL Site is responsible for treating, storing, and dispositioning a variety of radioactive and hazardous wastes; removing and dispositioning targeted buried waste; removing or deactivating unneeded facilities; and managing — and ultimately removing — SNF and HLW from Idaho. Activities are primarily performed at the RWMC and the Idaho Nuclear Technology and Engineering Center (INTEC) facilities.

ICP conducts stakeholder briefings regularly with state, Tribal, and local officials. ICP often provides updates about cleanup activities to the Shoshone-Bannock Tribes, the Idaho Department of Environmental Quality, the Idaho Cleanup Project Citizen's Advisory Board, and the Idaho congressional delegation's regional staff.



A mechanical engineer inspects calcine retrieval technology.

Calendar Year 2021 Accomplishments

- Concluded a two-year outage at the Integrated Waste Treatment Unit where more than 50 modifications were made to the facility in preparation for radiological operations in 2022
- Began treatment of potentially reactive and pyrophoric wastes at the Advanced Mixed Waste Treatment Facility
- Awarded and transitioned the new Idaho Cleanup Project End State Contract

Planned Cleanup Scope 2022–2032

Over the coming decade, cleanup activities at the INL Site will focus on completing treatment of remaining liquid sodium-bearing waste, buried waste exhumation, shipment of remaining TRU waste, and decommissioning and closure of facilities at the RWMC and INTEC.

At the RWMC facilities, buried waste exhumation and sludge processing operations are expected to be completed by the end of 2022. With the finish of waste processing operations, facility closures and demolitions will commence at the Subsurface Disposal Area (SDA). The SDA will be closed and permanently capped to meet a 2028 requirement. RWMC area closure is planned for 2028.

Activities at INTEC will increase for sodium-bearing waste, calcine, and SNF operations during the coming decade. Sodium-bearing waste processing at the IWU is expected to finish by the end of 2028. The

Post-2032 Cleanup Scope

At INTEC, HLW processing and SNF packaging are expected to be completed in the 2030s. In support of the Office of Nuclear Energy, processing and shipping remote-handled TRU, MLLW, and low-level waste (LLW) will continue into the 2040s. After closure of the RWMC and INTEC facilities, the area will continue to be monitored and assessed for any further needed remediation as part of DOE's long-term stewardship.



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

calcine retrieval and processing systems needed to make the waste road-ready are in their early stages of development. Mockups of the waste retrieval and bin set cleaning systems are being tested and readied for installation. The capabilities for calcine waste processing will be developed, installed, and placed into operations. For SNF, wet-to-dry storage transfers will be completed by the end of 2023. Additionally, fuel packaging capabilities will be developed, installed, and packaging operations commenced to make the fuel ready for shipment out of Idaho.

Key Regulatory Milestones 2022–2032

The regulatory milestones are contained in the 1995 Idaho Settlement Agreement (ISA), 2019 Supplement Agreement (SA), the Agreement to Implement the ISA (AI), the Site Treatment Plan (STP), and the Federal Facility Agreement Compliance Order (FFACO). The milestones include:

- Idaho provides at least 55 percent of transuranic waste shipments to WIPP, based on an annual three-year average (SA)
- Complete targeted waste exhumation from SDA — 2023 (AI)
- Complete SNF wet-to-dry storage transfers — 2023 (ISA)
- Commence treatment of calcine waste — 2024 (STP)
- Complete certification of original volume TRU waste — 2024 (STP)
- Complete sodium-bearing waste operations — 2028 (STP)
- Complete SDA cap — 2028