

Overview of Primary Idaho National Laboratory Site Facilities

Most Idaho National Laboratory (INL) Site buildings and structures are located within developed areas that are typically less than a few square miles in size and separated by miles of undeveloped land. U.S. Department of Energy (DOE) controls all the land within the INL Site boundary. In addition to the INL Site, DOE owns or leases laboratories and administrative offices in Idaho Falls, about 40 km (25 mi) east of the INL Site.

Advanced Test Reactor (ATR) Complex. The ATR Complex was established in the early 1950s and has been the primary operations location for three major test reactors: (1) the Materials Test Reactor (1952–1970); (2) the Engineering Test Reactor (1957–1982); and (3) the ATR (1967–present). The primary mission at the ATR Complex is the operation of the ATR, the world’s premier test reactor used to study the effects of radiation on materials. This reactor also produces rare and valuable medical and industrial isotopes. The ATR is a Nuclear Scientific User Facility. The ATR Complex also features the ATR Critical Facility, the Test Train Assembly Facility, the Radiation Measurements Laboratory, the Radiochemistry Laboratory, and the Safety and Tritium Applied Research Facility, which also serves as a National Scientific User Facility. The ATR Complex is operated by the INL contractor.

Central Facilities Area (CFA). CFA is the main service and support center for the Site’s desert facilities. Activities at CFA support transportation, maintenance, medical, construction, radiological monitoring, security, fire protection, warehouse storage, and instrument calibration activities. It is operated by the INL contractor.

Critical Infrastructure Test Range Complex (CITRC). The CITRC area is located in the south-central section of the INL Site and supports the National and Homeland Security missions of the laboratory, including program and project testing (e.g., critical infrastructure resilience, nonproliferation testing and demonstration). Wireless test-bed operations, power line and grid testing, unmanned aerial vehicle testing, accelerator testing, explosives detection and training, and radiological counter-terrorism emergency response take place at the CITRC area. It is operated by the INL contractor.

Idaho Nuclear Technology and Engineering Center (INTEC). The Idaho Chemical Processing Plant was established in the 1950s to recover usable uranium from spent nuclear fuel (SNF) used in DOE and U.S. Department of Defense (DOD) reactors. Over the years, the facility recovered more than \$1 billion worth of highly enriched uranium that was returned to the government fuel cycle. In addition, an innovative high-level liquid-waste-treatment process, known as calcining, was developed at INTEC. Calcining reduced the volume of liquid-radioactive waste generated during reprocessing and placed it in a more-stable granular-solid form. In the 1980s, the facility underwent a modernization, and safer, cleaner, and more efficient structures replaced most major facilities. SNF reprocessing was discontinued in 1992. In 1998, the plant was renamed INTEC. Current operations include the Integrated Waste Treatment Unit, designed to treat approximately 3,406,871 L (900,000 gal) of sodium-bearing liquid-waste for closure of the remaining liquid-waste storage tanks, SNF storage, environmental remediation, the disposal of excess facilities, and the expansion and management of the Idaho Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Disposal Facility. The Idaho CERCLA Disposal Facility is the consolidation point for CERCLA-generated wastes within the INL Site boundaries. INTEC is operated by the Idaho Cleanup Project (ICP) contractor.

Materials and Fuels Complex (MFC). MFC is located in the southeastern corner of the INL Site and is the foundation for nuclear research, development, and demonstration testing of advanced reactors. This complex is the nexus of R&D for new reactor fuels and related materials. As such, it will contribute to increasingly efficient reactor fuels and the important work of nonproliferation—harnessing more energy with less risk. Certain facilities at MFC also support the manufacturing and assembling of components for use in space applications. It is operated by the INL contractor.

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Transient Reactor Test Facility (TREAT). TREAT is a Nuclear Scientific User Facility that provides transient testing of nuclear fuels and materials. It is an air-cooled, thermal spectrum test facility specifically designed to evaluate the response of reactor fuels and structural materials to accident conditions ranging from mild upsets to severe accidents. TREAT is used to study fuel melting behavior, interactions between fuel and coolant, and the potential for propagation of failure to adjacent fuel pins. TREAT has an open core design that allows for ease of experiment instrumentation and real-time imaging of fuel motion during irradiation, which also makes TREAT an ideal platform for understanding the irradiation response of materials and fuels on a fundamental level. It is operated by the INL contractor.

Naval Reactors Facility (NRF). The NRF is operated by Fluor Marine Propulsion, LLC. As established in Executive Order 12344 (1982), the Naval Nuclear Propulsion Program is exempt from the [DOE O 458.1](#), [DOE NE O 458.1A](#), [DOE O 414.1E](#) and [DOE NE O 414.1](#) requirements. Therefore, activities conducted at NRF are excluded from this report. The director of the Naval Nuclear Propulsion Program establishes reporting requirements and methods implemented within the program, including those necessary to comply with appropriate environmental laws. The NRF program is documented in the NRF Environmental Monitoring Report (FMP 2025).

Radioactive Waste Management Complex (RWMC). Established in the 1950s, DOE used RWMC to manage, store, and dispose of waste contaminated with radioactive elements generated in national defense and research programs. RWMC currently provides treatment, temporary storage, and transportation of transuranic waste destined for Waste Isolation Pilot Plant. Cleanup of RWMC is managed by the ICP contractor.

Subsurface Disposal Area (SDA). The SDA is a 39-ha (96-acre) radioactive waste landfill at the RWMC that was used for more than 50 years. Approximately 14 of the 39 ha (35 of the 96 acres) contain waste, including radioactive elements, organic solvents, acids, nitrates, and metals from historical operations, such as reactor research at the INL Site and weapons production at other DOE facilities. A [CERCLA Record of Decision \(OU-7-13/14\)](#) was signed in 2008 (DOE-ID 2008) and included offsite disposition of targeted waste and construction of an evapotranspiration surface barrier. Targeted buried waste exhumation at the SDA was completed in 2022 and construction of the surface cover over the SDA will be completed in the near future. SDA cleanup is managed by the ICP contractor.

Remote-Handled Low-Level Waste-Disposal Facility. The Remote-Handled Low-Level Waste-Disposal Facility is a Hazard Category 2 nuclear facility providing a below-grade, permanent radioactive waste-disposal capability critical for nuclear research and Naval Reactors missions at the INL Site. Remote-handled low-level waste is generated from nuclear programs conducted at INL Site facilities, including the ATR Complex, NRF, and MFC. The facility began operations in 2018 and will support an anticipated 20 years of waste-disposal operations with an expansion capability for up to 50 years. The facility comprises an administration building, a maintenance building, and a 175,000-ft² vault yard that includes monitoring wells, a robust drainage system, and 446 below-grade concrete waste-disposal vaults sized to accommodate 939 stainless steel waste canisters of various configurations depending on the waste type and waste generator facility. It is operated by the INL contractor.

Research and Education Campus (REC). The REC is the collective name for the administrative, technical support, and computer facilities of INL in Idaho Falls, Idaho, as well as for the in-town laboratories where researchers work on a wide variety of advanced scientific R&D projects. The REC also hosts the [Biomass Feedstock National User Facility](#). As the name implies, the REC uses both basic science research and engineering to apply new knowledge to products and processes that improve the quality of life. This reflects the emphasis INL is placing on strengthening its science base and increasing the commercial success of its products and processes. Two laboratory facilities—the [Energy Systems Laboratory](#) and [Energy Innovation Laboratory](#)—were constructed in 2013 and 2014. In 2019, the Idaho Board of Education and INL completed the construction of two new research facilities: (1) the [Cybercore](#)

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Integration Center, and the (2) Collaborative Computing Center. The Cybercore Integration Center leads national efforts to secure critical infrastructure control systems from cybersecurity threats, while the Collaborative Computing Center will advance the computational science needs of INL and provide academia and industry with unprecedented access to high-performance computing. These and other facilities are integral to transforming INL into a world-renowned research laboratory. It is operated by the INL contractor.

DOE Radiological and Environmental Sciences Laboratory (RESL). RESL is located within the REC and provides a technical component to DOE oversight of contractor operations at DOE facilities and sites. As a reference laboratory, RESL conducts cost-effective measurement quality assurance programs that help ensure key DOE missions are completed in a safe and environmentally responsible manner. By ensuring the quality and stability of key laboratory measurement systems throughout DOE and by providing expert technical assistance to improve those systems and programs, RESL ensures the reliability of data on which decisions are based. The core scientific capabilities conducted at RESL are in analytical chemistry and radiation calibrations and measurements. The DOE Laboratory Accreditation Program is performed by RESL as well, which provides irradiation instruments for the testing and accreditation of dosimetry programs across the DOE Complex.

Test Area North (TAN). TAN is located in the northern portion of the INL Site. Initially, TAN consisted of facilities built between 1954 and 1961 by the U.S. Air Force and the Atomic Energy Commission Aircraft Nuclear Propulsion Program to handle, store, examine, research, and develop SNF for nuclear-powered aircraft research. After the termination of this research in 1961, the primary program at TAN became the Loss-of-Fluid Test, which focused on reactor-safety testing and behavior studies until it ended in 1985. Additionally, starting in 1980, TAN was used to work with material from the Three Mile Island reactor accident, a project that concluded in 2001. Remedial actions at TAN were completed in 2007, followed by the decontamination and decommissioning of non-operational facilities in 2008. Since 1961, TAN buildings have been repurposed for various programs, including the operations at the North Radiological Response Training Range and the work being conducted at the New Pump-and-Treat Facility. The Specific Manufacturing Capability Project, which is also located at TAN, is operated by the INL contractor for the DOD and manufactures protective armor for the Army M1-A1 and M1-A2 Abrams tanks. It is operated by the INL contractor.

References

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