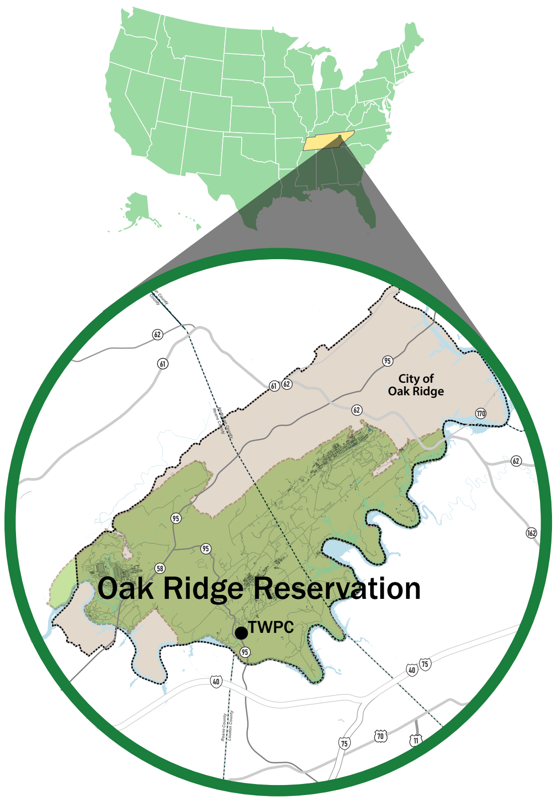
Advanced Processing Facilities

TWPC is a Hazard Category 2 nuclear facility with four distinctive High Efficiency Particulate Air (HEPA) ventilated process areas. This facility includes a ~1,000 square-foot Hot Cell, a 5-line glovebox, and two large container processing areas.

TWPC facilities include feature ventilation and tooling to support the opening, treating, sorting, size reduction, and compliant packaging of various types of radioactive waste. They are also capable of handling bulk and large containerized waste for size reduction and repackaging. TWPC can handle most types of Resource Conservation and Recovery Act (RCRA) non-compliant waste with RCRA permitted storage and treatment, including stabilization, mercury amalgamation, and macro-encapsulation.

TWPC has the capability to disposition TRU, MLLW, and LLW compliant with the WIPP and NNSS waste certification programs.

RH waste is processed in the hot cell. Associated material handling equipment is designed to support the compliant inspection, characterization, and packaging of remote handled waste. The Hot cell is equipped with four robust manipulators, a 5-ton overhead crane, and a robotic manipulating arm on an overhead remote crane, which allows for remote processing of the waste.



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OREM
Oak Ridge Office of Environmental Management

UCOR
United Cleanup Oak Ridge LLC

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TWPC
Transuranic Waste Processing Center

Managing Oak Ridge Reservation Legacy Waste

Legacy TRU Waste Disposal

The mission of the Transuranic Waste Processing Center (TWPC) is to receive, process, package, certify, and ship legacy transuranic (TRU) waste generated at the Department of Energy's Oak Ridge Reservation in Tennessee. TRU waste consists of manufactured, radioactive elements heavier than uranium on the periodic table, notably plutonium, americium, and neptunium.

TWPC crews receive, process, and package two forms of TRU waste: remote- and contact-handled waste. Remote-handled waste has higher radioactivity levels and must be processed using special equipment. Contact-handled waste has lower radioactivity levels and can be processed directly by employees.

After waste is processed at TWPC, it is characterized and the resulting TRU, mixed low-level waste (MLLW), and low-level waste (LLW) are shipped for disposal at Waste Isolation Pilot Plant (WIPP), Nevada National Security Site (NNSS), or offsite commercial treatment and disposal facilities.

TWPC

Central Characterization Project

The Central Characterization Program (CCP) is an integral part of a TWPC team that supports characterization, certification, and transportation activities. CCP specialists ensure that all WIPP-bound shipments meet the WIPP waste acceptance criteria and stringent safety protocols and regulatory compliance standards.

Streamlined Processing

TWPC is positioned to streamline the processing and certification of radioactive waste destined for disposal at WIPP and NNSS, which allows for cost and schedule advantages. Due to its unique design and operational capabilities, TWPC can process various types, sizes, and configuration of waste. TWPC is supported in this effort by its hazardous waste facility permit that provides sufficient storage locations for RCRA-permitted waste.

Innovative Treatment Solutions

TWPC has a long history of developing unique and innovative treatment solutions to difficult waste streams from several DOE operations, facilities, and missions (e.g., classified waste, pyrophoric, reactive, resins, powders, sludge, soils, cellulosic waste, sources, and more). TWPC also has the capability to expand operations by repurposing previous Hazardous Category 2 space that may be leveraged to process waste with no known disposal paths.

NRC-Certified Casks

All casks used to transport TRU waste to WIPP are Nuclear Regulatory Commission (NRC) certified Type B casks that meet stringent design, fabrication, operation and maintenance requirements. Type B casks must withstand normal transportation conditions, such as exposure to low and high temperatures, varying external pressures, and impact from debris. In addition, NRC certification requires Type B casks to withstand a series of hypothetical accidents—ranging from drops and punctures to fire and immersion in water—without failing.