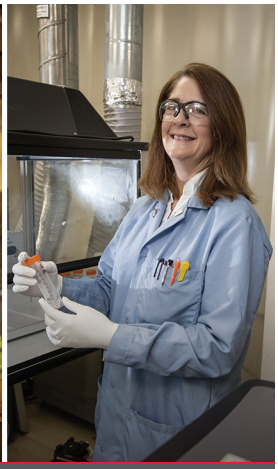
ABOUT Y-12



MISSIONS

The Y-12 National Security Complex has three primary national security missions that protect our country and our allies around the world. Maintaining the U.S. nuclear stockpile, reducing global threats, and fueling the U.S. Nuclear Navy are key activities at this historic site.

Maintain the safety, security, and effectiveness of the U.S. nuclear weapons stockpile

Production, surveillance, dismantlement, and storage are four distinct facets of this mission. Production includes the manufacture of new components, which often are combined with recycled components into subassemblies. This process, referred to as refurbishment, extends the lifetimes of systems in the active weapons stockpile and ensures their effectiveness. Another aspect of this mission is surveillance testing, which determines how weapons in the active stockpile are aging. Dismantlement involves separating components of retired weapons and recovering nuclear materials. Storage occurs throughout all of these processes.

Reduce the global threat posed by nuclear proliferation and terrorism

Y-12 works with NNSA and other federal agencies to secure vulnerable nuclear materials domestically and internationally. Activities encompass detection, removal, and security of nuclear material, and ultimately making weapons material available for peaceful uses, such as fueling research reactors and producing medical isotopes. Through NNSA's Office of Material Management and Minimization, Y-12 safely secures materials and transports them to Y-12 for storage or disposition. Additionally, Y-12 works globally to ensure materials are appropriately protected through training of those charged with its protection.

Provide feedstock to fuel the U.S. Nuclear Navy

Y-12 provides highly enriched uranium (or feedstock) used in the fabrication of fuel for reactors in the Navy's nuclear-powered aircraft carriers and submarines under an agreement with NNSA's Naval Reactors Office.

The Y-12 National Security Complex in Oak Ridge, Tennessee, is one of six production facilities in the National Nuclear Security Administration's (NNSA's) Nuclear Security Enterprise. Y-12's unique emphasis is the processing and storage of uranium and development of technologies associated with those activities. Decades of precision machining experience make Y-12 a production facility with capabilities unequaled nationwide.

Consolidated Nuclear Security, LLC (CNS), manages and operates the facility along with the Pantex Plant in Texas under a single contract with the U.S. Department of Energy/NNSA.

This document has been reviewed by a DC/RO and confirmed to be UNCLASSIFIED.
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Date: 07/07/2022
CNS eDC/RO ID: 460020

HISTORY

Constructed as part of the World War II Manhattan Project, Y-12 provided the enriched uranium for Little Boy, the atomic bomb dropped on Hiroshima, Japan, to help the United States and its allies end a war that had taken 63 million lives worldwide. Afterward, Y-12 provided lithium separation and key components for the thermonuclear weapons that helped end the Cold War. Y-12's expertise in machining, handling and protecting radiological materials has made the Oak Ridge site central to the nation's nuclear security.

KEY CAPABILITIES

Y-12 has developed state-of-the-art capabilities in three core areas: nuclear technology and materials, security and consequence management, and manufacturing and technical services.

Y-12 lends its specialized expertise to other federal agencies, such as the U.S. Departments of Defense and Homeland Security, state and local governments, and private-sector companies.

Projects at Y-12 include providing protective equipment to soldiers in combat, training National Guard units for radiological emergencies, and creating machining platforms that improve production and efficiency. Applying our capabilities to these endeavors while meeting core NNSA commitments ensures maximum benefit to our ultimate customer, the U.S. citizen.

APPLIED EXPERTISE

Products and processes that Y-12 develops for use in a high-consequence production setting strengthen the science, technology, and engineering competencies at the foundation of NNSA's missions. Y-12 actively seeks partnerships to commercialize these technologies, which not only help solve a variety of global security challenges, but also have applications for allies, other government agencies, and the private sector.

To review technologies available for licensing, visit **http://www.y12.doe.gov/technologies**

FACILITY SIZE

Y-12 spans 811 acres, with 2.5 miles between its east and west boundaries. Housed within its borders are manufacturing, production, laboratory, support, and research and development areas.

WORKFORCE

The strength of Y-12 lies in the dedication and patriotic commitment of its employees. More than 7,500 Tennesseans work at Y-12, including federal and contractor staff.

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