Y-12 Facility Descriptions
Updated August 2020

Key Visit Locations:

The Y-12 Protected Area encompasses approximately 150 acres and includes large process buildings constructed during the Manhattan Project. It includes enriched uranium processing and storage operations, lithium and special material processing, and related operations. Only a fraction of these aging buildings are necessary for current and anticipated Defense Programs missions. Many of these buildings are process contaminated with uranium and chemical contaminants associated with past operations.

9204-2E missions include the disassembly and assembly of components for the nation's nuclear stockpile, dismantlement of components no longer needed, and stockpile quality evaluation and maintenance to evaluate the life-cycle conditions of war reserve components in support of the enduring stockpile. The facility was originally built as an addition to 9204-2 in 1969. It is one of two enduring facilities at Y-12 that will be operated after UPF has been completed.

Building 9204-2 produces non-nuclear materials associated with production operations. The facility was built as part of the Manhattan Project in September 1944 and was used to separate uranium 235.

UPF: The Uranium Processing Facility (UPF) will ensure the long-term viability, safety and security of the enriched uranium capability in the United States. UPF will be completed through a series of seven subprojects by 2025.

Building 9212 is a large chemical processing facility that was completed in November 1945 as a chemical recovery operation to recycle uranium. It was the location of the first production of uranium metal at Y-12 and the earliest nuclear weapons production facility at Y-12. Since then, it has been modified many times to meet changing national security missions, but generally speaking is optimized for a large nuclear weapons production mission necessary during the buildup of U.S. thermonuclear forces in the 1950's and 1960's. It continues to serve as one of the primary chemical processing and enriched uranium production facilities at Y-12.

The Highly Enriched Uranium Materials Facility serves as Y-12's ultra secure uranium "warehouse." The $549 million facility, in operation since January 2010, is designed from the ground up for the safe and secure storage of large quantities of enriched uranium.

Building 9731, the first building completed at the Y-12 site, was the Pilot Facility for the Manhattan Project era Y-12 Electromagnetic Separation Plant. It has seen various process development missions over the years ranging from separating stable isotopes for nuclear medicine, industrial and agricultural uses to Cold War processes. 9731 is one of two facilities onsite that are part of the Manhattan Project National Historical Park.

The New Hope Center, opened in July, 2007, serves as the public interface facility for Y-12. The facility includes a History Center with artifacts and videos that detail the contributions of Y-12 to national security for over 70 years. The History Center is one of four stops on the DOE Oak Ridge Public Bus Tour Program.

Other Y-12 Visit Locations

Building 9215 is used for enriched and depleted uranium metal work. DU metal work includes casting, heat treating, rolling/forming, fabrication, sampling and cleaning. EU metal work includes rolling/forming, machining, and sampling. 9215 is an enduring facility that will operate for decades after the Uranium Processing Facility (UPF) is operational.

Building 9202 was completed in November of 1943. It was the original location for the Bulk Treatment Laboratory, the processing facility for the Alpha Calutrons feed material. It was where the uranium was processed from its initial state as it arrived in Y-12 from the uranium mines. Today the facility is the location for the Development organization. They provide diverse capabilities in materials sciences and manufacturing technologies in support of the U. S. nuclear weapons manufacturing mission, modernization activities such as the Uranium Processing Facility and Lithium Production Facility, stockpile surveillance, and a variety of broader national security mission areas. Development is also the focal point for knowledge preservation of manufacturing technology at Y-12.

Building 9737, where electrical shops are located was completed in July 1943. Over the years, this building continued to serve as the electrical maintenance headquarters. It had a role in the Moon Box construction and also housed the Instrument Calibration Laboratory and now is home to a metrology center. It also was the primary location of the Centers for Manufacturing Technology.

Building Alpha 5N produces high precision finished components from depleted uranium and other materials

9201-3 is a general maintenance shop and training facility. It is one of nine original Manhattan era buildings that housed "calutrons" for the separation of uranium 235.

9213 Built in 1950, this building was designed to conduct criticality experiments and is today Y-12's Radiological Field Training Center – the only facility of its kind in the world. The Center equips military units as well as federal, state and local emergency response agencies with the hands-on skills and knowledge needed to safely detect, safeguard and handle nuclear and radiological sources.

Building 9706-2, completed in July 1944, housed the Y-12 Medical facility until July 2007 when it was moved to the new Jack Case Center. The building has also been the home of the Plant Shift Superintendent's office since its inception and serves that function even today. New to the facility is the National Nuclear Security Administration's Global Threat Reduction Initiative (GTRI) Training Program. This unique course trains hospital and university response forces to mitigate radioactive source theft and to rehearse attacks.

Building 9995—This general purpose analytical chemistry laboratory of approximately 84,000 square feet analyzes virtually every part and every process at Y-12, from isotopic analyses of major materials and the periodic table of their impurities, to analyses of beryllium and asbestos to protect worker health and safety. In addition the Lab analyzes the constituents of ground water and stream and stack effluents to keep the Plant in environmental compliance.

The **Central Training Facility** (CTF) is home to state-of-the art protective force training facilities including the Tactical Training Facility, which was the first of its kind in the DOE Complex, Simulation Center and Live Fire Shoot House. Accredited by the National Training Center, the 700-acre CTF provides Y-12 and other Oak Ridge DOE Security Police Officers with tactical training to achieve elite force levels.

Building 9109 is a two-story administrative structure that houses the Office of Radiological Security-Alarm Response Training (ART) academy. The academy moved to 9109 in 2014 and is

used to train law enforcement, radiation safety officers, security personnel, FBI and others from around the world to protect nuclear and radiological materials of concern.

PPtF: The Purification facility (also known as PPtF, Purification Prototype Facility) at the Y-12 National Security Complex is the first of Y-12's modernization efforts. Finished in 2006, the facility provides a purification process for the manufacturing of nonnuclear, special materials needed to support future Y-12's Stockpile Life Extension Program missions. The 10,000-square-foot concrete and steel building with brick veneer is part of the Specials Materials Capabilities Program.

Building 9201-01: Alpha 1 contains a large, general machine shop used for non-uranium metal work. It is one of nine original Manhattan era buildings that housed "calutrons" for the separation of uranium 235.

Other Y-12 Facilities No longer Accessible for Visits

Building 9204-3 completed in March 1945, consists of two racetracks of Beta Calutrons used during the last months of the Manhattan Project to separate uranium for the Little Boy bomb. After World War II, the facility was used to separate stable isotopes of elements other than uranium for use as targets of radioisotopes and research. The building, which was operated until 1998, is managed by Oak Ridge National Laboratory, as part of the DOE Stable Isotope Program under the DOE Office of Nuclear Energy. Beta 3 is located within the Y-12 Protected Area and is one of two facilities onsite that are a part of the Manhattan Project National Historical Park.

Alpha 5: Completed in May 1944, the 530,000 square foot building is the second largest of the original Alpha Production facilities built as part of the Manhattan Project. The building originally functioned as a uranium enrichment facility during World War II. The last primary mission of 9201-5 was to process and manufacture depleted uranium and non-uranium materials parts. There are no current operations in Alpha 5.

OST Eastern Command:

Office of Secure Transportation (OST) provides safe and secure transportation of nuclear weapons and components and special nuclear materials, and conducts missions supporting the national security of the United States.