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FOR IMMEDIATE RELEASE

SRS completes years-long effort, doubles capacity of tritium loading line in support of nation's nuclear deterrent

AIKEN, S.C. (May 25, 2021) – The Savannah River Site (SRS) recently completed a years-long effort to upgrade a tritium loading line, doubling the capacity of the line to support the National Nuclear Security Administration's ability to accomplish its mission of providing safe, secure, and effective nuclear weapons to support the nation's nuclear deterrent.

These recently completed modifications include facility, workforce and procedure changes, as well as introduction of a new type of tritium reservoir to support production requirements associated with the B61-12 Life Extension Program (LEP). The B61-12 LEP will consolidate and replace the B61-3, -4, -7, and -10 bomb variants. The goals of the B61-12 LEP are to address critical aging issues, to meet United States Strategic Command and North Atlantic Treaty Organization requirements and to integrate with multiple aircraft. These updates would not be possible absent these upgrades to the line.

"Tritium is a radioactive isotope of hydrogen and a key element in nuclear weapons," said Don Zecha, Savannah River Nuclear Solutions B61-12 LEP Project Manager and Weapon Program Engineer. "SRS has the Nation's sole capability to produce tritium-loaded containers, called reservoirs. This process utilizes loading lines that are configured to fill specific reservoirs for each weapon system in the United States' stockpile. After filling, reservoirs are used to produce Gas Transfer Systems (GTSS) that are shipped to the Department of Defense where they are installed in weapons."



Aerial of the tritium facilities at SRS

The loading line upgrade included removing dozens of valves, reducing gas flow restrictions and the time required to remove extraneous gas during the loading process. This improvement doubled the loading line's production capacity and is essential to support a major refurbishment of the B61, a weapon introduced into the Nation's active military stockpile more than 50 years ago. Old components are being replaced to ensure the weapon works as intended. The process to evaluate an entire weapon system and refurbish, reuse, or replace components to extend the service life of the bomb or warhead is known as an LEP.

The 3X Assembly is the new, advanced GTS for the B61-12 weapon, and it utilizes the 3X reservoir. Completion of the complex three-year upgrade project will enable SRS to meet production requirements for the 3X reservoir while supporting existing requirements for other reservoir types.

"Teams in the tritium facilities collaborated with the Savannah River National Laboratory to complete the loading line upgrade, conduct a series of tests to ensure proper operation and resume production," added Zecha. "Its successful completion continues to make us the backbone of deterrence in support of peace.

Established by Congress in 2000, NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science. NNSA maintains and enhances the safety, security, and effectiveness of the U.S. nuclear weapons stockpile; works to reduce the global danger from weapons of mass destruction; provides the U.S. Navy with safe and militarily effective nuclear propulsion; and responds to nuclear and radiological emergencies in the U.S. and abroad.

Established by Congress in 2000, the National Nuclear Security Administration (NNSA) is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science. The mission of the NNSA Savannah River Field Office (SRFO) is to provide operations, programs, and project oversight and contract administration for NNSA field activities at the Savannah River Site, located near Aiken, South Carolina.

Savannah River Nuclear Solutions, a Fluor-led company with Newport News Nuclear and Honeywell, is responsible for the management and operations of the Department of Energy's Savannah River Site, including the Savannah River National Laboratory, located near Aiken, South Carolina.

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