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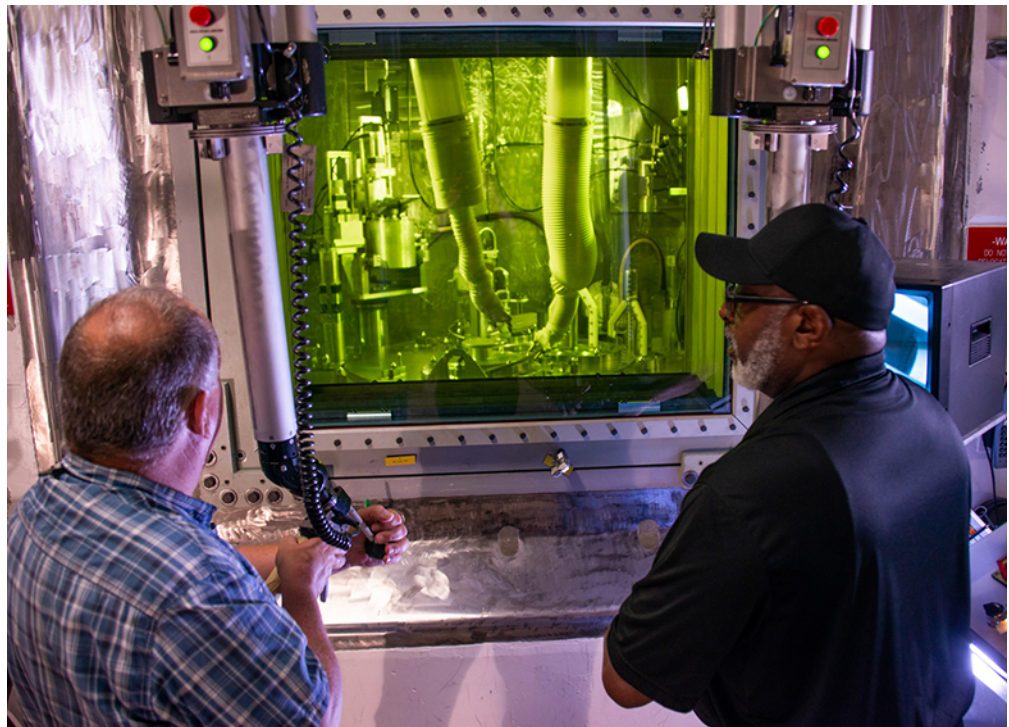
Tritium Extraction Sets the Stage for Future Service to Nation

AIKEN, S.C. (Nov. 5, 2019) – By firing up a previously unused industrial furnace, the Savannah River Site (SRS) will be able to extract more of a rare gas that is key to the U.S. nuclear deterrent: tritium.

SRS now has two qualified furnaces to use in the extraction process. This addition will enhance operational flexibility and capability in preparation for achieving the multiple annual extractions that will be required in coming years.

From 2007 until 2017, the SRS Tritium Extraction Facility conducted a single extraction each year to supply tritium for the U.S. nuclear deterrent. In 2017, for the first time, the facility performed three extractions in a single year. Throughout this time, the original furnace was used to perform all extractions. In coming years, however, multiple extractions will be required each year to meet the Nation's requirements.

The 2019 deployment of the second furnace was a stepping stone to readiness for the coming workload. “By preparing and putting into service this second furnace, our personnel have helped get us ready to continue serving this important national mission,” said Wallis Spangler, Savannah River Nuclear Solutions (SRNS) Senior Vice President for NNSA Operations and Programs. “Having a second proven furnace will help us meet the increasing demands of that mission.”



The Tritium Extraction Facility's Target Rod Prep area.

Tritium, the radioactive form of hydrogen that is a necessary element of modern nuclear weapons, radioactively decays by 5.5 percent each year, so it must be continuously replenished. The Savannah River Tritium Enterprise (SRTE) at SRS is the Nation's only facility for replenishing the tritium supply and providing it to the Department of Defense for use in the Nation's nuclear deterrent.

One of the two ways SRTE replenishes the tritium supply is by extracting tritium from target rods that have been irradiated in a reactor operated by the Tennessee Valley Authority. They accomplish this in the SRS Tritium Extraction Facility, using heat from a furnace.

Since the 1950s, SRS has been the Nation's only center for providing tritium in support of the U.S. nuclear deterrent. In addition to extracting new tritium, SRTE supplies the gas by recycling and removing the decay products from tritium in reservoirs returned from the stockpile.

SRNS operates SRTE and other missions in support of the National Nuclear Security Administration (NNSA), the semi-autonomous agency within the U.S. Department of Energy responsible for maintaining and enhancing the safety, security, and effectiveness of the U.S. nuclear weapons stockpile.

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.

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SRNS-2019-849