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FOR IMMEDIATE RELEASE

New SRS Tritium Facility Capability Increases Process Efficiency

AIKEN, S.C. (Oct. 19, 2020) – A five-year-long project at the Savannah River Site’s (SRS) Tritium Extraction Facility (TEF) has enabled the Site to more efficiently handle waste gases resulting from work supporting the Nation’s nuclear deterrent.

At the TEF, tritium, a radioactive isotope of hydrogen and a key element in nuclear weapons, is extracted from rods irradiated in a Tennessee Valley Authority reactor in preparation for loading into reservoirs for shipment to the U.S. Department of Defense.

This process creates waste gases containing a mixture of hydrogen isotopes and other isotopes, a combination that TEF previously sent to a separate tritium facility for processing. With the new diffuser system design, TEF separates the hydrogen isotopes from the other types, allowing the non-hydrogen gases to be discharged with the building’s heating, ventilation, and air condition exhaust through a stack.

“This project was the result of careful planning, perseverance, and diligent work by many different work groups over the last five years,” said Joey Huckabee, TEF Facility Manager. “TEF now has more freedom to stack its own process waste gas without having to coordinate interbuilding transfers with the H Area New Manufacturing (HANM) facility. This eliminates the need to interrupt processes to manage waste gas, reduces the burden on the HANM tritium process stripper system, and provides valuable stacking redundancy within the tritium facilities.”



Behind the Tritium Extraction Facility, a 100-foot stack is used to discharge process waste gas.

This project was completed in several phases. Detailed design started in April 2015, followed by procurement and field construction. Operational readiness activities involving safety basis work, training and procedures, and maintenance records were followed by system testing. These activities were self-assessed by groups within the SRS tritium facilities.

Following self-assessment, SRNS and the National Nuclear Security Administration (NNSA) performed independent Readiness Assessments and once those were complete, Construction performed final tie-in activities. The system was then tested using normal operating procedures and placed in service July 2020.

Mark Davis, SRNS Acting Senior Vice President of NNSA Operations and Programs, said, “This new capability was several years in the making, and I’m proud of all the teams that worked to make what began as an idea a reality. Thank you for all you do to keep us the backbone of deterrence in support of peace.”

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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