The Savannah River Site (SRS) is a key DOE industrial complex responsible for environmental stewardship of the cleanup, waste management and disposition of nuclear materials.

The site also develops and deploys technologies to improve the environment and treat nuclear and hazardous wastes left from the Cold War. The current inventory of the waste is stored in 43 waste tanks, all of which will be operationally closed.

Safely closing waste tanks involves an intricate set of steps that includes emptying the waste tanks of bulk waste, then removing as much of the remaining residual waste as practical through various technologies and techniques, and demonstrating that the closure is protective of human health and the environment. Next, the tanks can be filled with grout, a cement-like material designed to secure the tank and protect the environment.

The SRS complex covers 198,344 acres, or 310 square miles, encompassing parts of Aiken, Barnwell and Allendale counties in South Carolina, bordering the Savannah River.

SRS has a history of national service. From its inception in the 1950s, SRS has provided knowledge, technology and integrated solutions for our most pressing national needs. The scale and boldness of SRS contributions were forged in the nation’s need to win the race for worldwide nuclear weapons superiority. For nearly 40 years, SRS pioneered the development of new nuclear technologies and deployed those technologies at scales not previously demonstrated by mankind. Achieving that success required massive investment, extreme personal sacrifice and the creation of untold innovations. Entire communities were relocated, a world-class workforce was created, and infrastructure—never before imagined—was built in record time. By the late 1980s it was clear to the world that the U.S. nuclear capability would serve as a deterrent to any other nation's ambition to launch a broad nuclear attack. SRS accomplishments continue to stand at the core of our nation’s nuclear deterrent.

The Savannah River Site has a long history of operational accomplishment, and has been recognized as one of the safest major industrial sites in the world.

SRS has a long track record of being one of the safest major industrial sites in the world. To that end, SRS has been recognized for its safe work by being awarded the Voluntary Protection Program (VPP) STAR status. VPP is a joint DOE and Occupational Safety and Health Administration sponsored program. Protecting workers, the public, the environment and national security interests are our highest priority.
SAFELY REDUCING SOUTH CAROLINA’S SINGLE GREATEST ENVIRONMENTAL RISK.

THE SAVANNAH RIVER SITE

LIQUID WASTE NUCLEAR TANK FARMS

The radioactive waste from SRS chemical separations process is present in the tank farms in both solid and liquid forms. Over 150 million gallons of radioactive waste have been generated and concentrated by evaporation to a present volume of about 36 million gallons.

This waste is stored in 43 underground waste tanks in the Savannah River Site’s F and H tank farms. In storage tanks, the sludge settles on the bottom of the tanks. Liquid above the sludge is referred to as salt. Since 1954, SRS waste tanks have provided safe and environmentally sound storage for nuclear waste.

SALTSTONE FACILITIES

Removing salt waste, which fills over 93 percent of the usable tank space in the SRS tank farms, is a major step toward emptying the Site's remaining 43 high-level waste tanks that contain approximately 36 million gallons of waste.

The Saltstone facilities safely stabilize and dispose of low-level radioactive liquid salt wastes produced and stored at SRS. The Saltstone facilities consist of two facility segments: the Saltstone Production Facility and the Saltstone Disposal Facility. The facilities immobilize and dispose of salt waste from the sites tank farms, which process waste from the Site's two chemical separation facilities. Most of the Site's tank farm waste will be immobilized within two waste forms: glass which will contain about 99 percent of the radioactivity, and cement-like grout, which will contain most of the volume. The highly radioactive, insoluble tank sludge is sent to DWPF to be turned into glass.

TANK CLOSURE

SRS is home to the first two liquid radioactive waste tank operational closures in the nation. Marking a major milestone in stabilizing another portion of the Cold War legacy materials for the site and the Nation, these two tank operational closures have been followed with two more in 2012, two in 2013, one in 2015, and one on track for 2016.

Savannah River Remediation’s (SRR) mission is to remove, stabilize, and dispose of approximately 36 million gallons of liquid radioactive waste in 43 remaining underground waste tanks, along with operationally closing them.

DEFENSE WASTE PROCESSING FACILITY

The only operating radioactive waste glassification plant in the nation, the Defense Waste Processing Facility (DWPF) converts the liquid radioactive waste currently stored at SRS into a solid glass form suitable for long-term storage and disposal.

Scientists have long considered this classification process, called “vitrification,” as the preferred option for treating liquid radioactive waste. By immobilizing the radioactivity in glass, the DWPF reduces the risks associated with the continued storage of liquid radioactive waste at SRS and prepares the waste for final disposal in a federal repository. About 36 million gallons of liquid nuclear wastes are now stored in 43 underground carbon-steel tanks at SRS. This waste has about 250 million curies of radioactivity, of which the vast majority will be vitrified at DWPF.