

# News from the Savannah River Site

US DEPARTMENT OF ENERGY • AIKEN • SC 29808

## **MEDIA CONTACTS:**

Sonya Goines, DOE-SR, (803) 952-8564  
sonya.goines@srs.gov

Colleen Welch, SRR, (803) 208-2428  
colleen.welch@srs.gov

## **FOR IMMEDIATE RELEASE**

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### **DEFENSE WASTE PROCESSING FACILITY CELEBRATES 20 YEARS OF OPERATION**

AIKEN, S.C. (March 21, 2016) – Twenty years ago this month, the first high-level waste at the Savannah River Site (SRS) was converted into glass.

The nation's only operating vitrification facility, the Defense Waste Processing Facility (DWPF), has been the steady and reliable workhorse of liquid waste operations at SRS.

Vitrification, also called glassification, is the process of using extremely high temperatures to turn the sludge waste, combined with frit (a sand-like material), into a glass form. A 65-ton melter is used to glassify the waste into borosilicate glass, which immobilizes it, and makes it suitable for safe, long-term disposal in stainless steel canisters. Currently, these canisters are safely stored in an on-site facility until a federal repository is identified.

DWPF has been safely treating the high-level liquid waste at the Department of Energy (DOE) facility since radioactive operations began on March 12, 1996, with the transfer of sludge waste feed to DWPF. A little over a month later, on April 29, the first radioactive canister was poured. DWPF poured its 4,000th canister of glassified waste December 31, 2015.

Savannah River Remediation (SRR) operates DWPF, as well as other liquid waste facilities at SRS, as part of its contract with DOE. Operations are expected to continue at DWPF for approximately 20 more years and about 4,000 more canisters are scheduled to be produced.

Jack Craig, DOE-SR Manager, said that DWPF's success is not just impressive, but necessary.

"DWPF is important to the Department of Energy; it's important to the surrounding communities; and it's important to the state of South Carolina," Craig said. "Stabilizing the waste by making it into glass means the risk is significantly reduced for the people, the community and the environment."

Mark Schmitz, Acting SRR President and Project Manager, said this facility has been a proven process for dispositioning the high-level liquid waste at SRS.

**(more)**

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“The longevity and success of DWPF are attributes of the safe operations performed by our workers over the last two decades,” Schmitz said. “DWPF is a robust, safe, efficient, and reliable facility. We’re looking forward to seeing continued success over the next 20 years.”

### DWPF Heritage

DWPF’s origins are traced back long before startup in 1996. In the mid-1970s, DOE recognized significant safety and cost advantages in immobilizing the liquid waste into a solid form. About 20 different wasteforms, including synthetic rock, ceramic, and cement, were evaluated as a solution to stable, long-term storage of the liquid waste. In 1982, DOE selected borosilicate glass as the choice end form for the high-level waste at SRS. Research confirmed that the radioactive constituents in the waste were chemically bound in the borosilicate glass matrix, making it a highly durable wasteform.

In November 1983, ground was broken for the construction of DWPF, which would be the nation’s first vitrification plant. After construction was completed, the facility went through a vigorous startup testing program. Eighty canisters of simulated glass were poured during testing.

### DWPF Facts

- DWPF contains 71,000 cubic yards of concrete and 10,500 tons of reinforcing steel. The 10-foot-thick concrete foundation mat is reinforced by 2¼-inch diameter reinforcing steel.
- DWPF has poured 4,032 (*as of March 9*) of more than 8,000 total expected canisters.
- DWPF has removed approximately 58.6 million curies of measure of radioactivity from the liquid waste at SRS.
- DWPF has poured nearly 16 million pounds of molten glass since 1996.
- DWPF has seen only two different melters in its lifetime. Melter 2 has poured more than 10 million pounds of glass and is still safely and efficiently operating, exceeding design life by more than 10 years.

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*SRS is owned by DOE. The SRS Liquid Waste contract is managed by SRR, which is composed of a team of companies led by AECOM with partners Bechtel National, CH2M and BWX Technologies. Critical subcontractors for the contract are AREVA, EnergySolutions and URS Professional Solutions.*

*Additional information on the Department of Energy’s Office of Environmental Management and the Savannah River Site can be found at <http://www.em.doe.gov> or <http://www.srs.gov>.*