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For Immediate Release

DWPF Celebrates 10 Years of Safe and Successful Radioactive Operations

AIKEN, S.C. (March 29) – The Savannah River Site’s Defense Waste Processing Facility (DWPF) celebrated a major event today – ten years of safe and successful radioactive operations.

Since March 1996, over 2,000 canisters have been filled using a process that mixes radioactive liquid waste with glass, yielding a solid form that will protect the environment.

As a part of this process, over two million gallons of radioactive sludge has been processed and 10 million curies of radioactive nuclides immobilized in glass.

“The list of accomplishments achieved by those employees who support DWPF is truly outstanding,” said Bill Poulson, Executive Vice President, WSRC Liquid Waste Operations. “And, while the facility is a gleaming state-of-the-art structure, it’s the personnel who set it apart. Their hard work and dedication is inspiring.”

Poulson said that DWPF personnel have found innovative methods to dramatically increase the amount of waste contained within each stainless steel canister.

“It’s important to note that we’re also celebrating the fact that an impressive safety record was maintained over this same time period,” added Poulson. “Protecting our workers, the environment and surrounding communities has been and will always be our top priority.”

BACKGROUND INFORMATION:

The Defense Waste Processing Facility is the largest radioactive waste glassification plant in the world.

(more)

The WSRC Team:

Washington Savannah River Company LLC • Bechtel Savannah River, Inc. • BNG America Savannah River Corporation
BWXT Savannah River Company • CH2 Savannah River Company

Scientists have long considered this glassification process, called “vitrification,” as the preferred option for treating radioactive liquids. By immobilizing the radioactivity in glass, the DWPF reduces the risks associated with the continued storage of radioactive wastes at SRS. About 36 million gallons of radioactive wastes are now stored in 49 underground carbon-steel tanks at SRS. The DWPF plays a major role in treating this waste to yield a durable stable solid glass waste form suitable for disposal in a federal radioactive waste repository.

DWPF is presently vitrifying the sludge form of the radioactive waste currently in tank storage. In this process, a sand-like borosilicate glass (called “frit”) is mixed with the waste and sent to the plant’s 65-ton steel and ceramic melter. In the melter, electricity is used to heat the waste/frit mixture to nearly 2,100 degrees Fahrenheit until molten. This molten glass-waste mixture is poured, in a pencil-thin stream, into stainless steel canisters to cool and harden.

Each canister is 10 feet tall and 2 feet in diameter; it takes a little over a day to fill one canister.

After a canister is filled, the exterior is blasted with a frit-water mixture to remove contamination. A stainless steel plug is fitted into the neck of each filled canister and the canister is welded shut using a current of 250,000 amps applied for 1.5 seconds, while 80,000 pounds of force simultaneously rams the plug into the neck of the canister. The resulting weld is as strong as the 3/8-inch-thick stainless steel canister itself.

SRS is owned by the Department of Energy and operated by a team of companies led by WSRC, a subsidiary of Washington Group International.