NEWS from
The Savannah River Site

Media contact: "DT" Townsend
(803) 208-8270
dt-lawrence.townsend@srs.gov

For Immediate Release

DOE's Defense Waste Processing Facility Sets Productivity Record at SRS
Fiscal Year 2006 has been a banner year for the Defense Waste Processing Facility at the Savannah River Site

AIKEN, S.C. (Oct. 16)— Feeding and keeping the U.S. Department of Energy's (DOE) Defense Waste Processing Facility (DWPF) glass melter operating, known as attainment, has never been more productive in the ten-year history of the facility.

"Over the past fiscal year, our melter attainment has been a record setting 86 percent. That's operating around the clock, 12 months a year," said Steve Wilkerson, DWPF Facility Manager, Washington Savannah River Company (WSRC). "Keeping the melter running means we're filling stainless steel canisters with liquid radioactive waste mixed with molten glass. I'm quite proud of the dedicated and talented WSRC employees that have made this achievement possible."

"With each DWPF canister poured and sealed, DOE successfully demonstrates its top cleanup priorities are to treat and safely dispose of radioactive waste and to reduce any associated risks to the public, employees and surrounding environment," said Terrell Spears, Assistant Manager for Waste Disposition Project, DOE-Savannah River Operations Office.

Wilkerson added that the last three months have been especially productive with attainment averaging well over 90 percent, with an exceptional performance in September of greater than 98%. In fact, over the past three-year contract period, DWPF has poured 1,182 equivalent canisters, enough to exceed their target number by 22 percent.

"Even as the facility is operating successfully, we continue to put a premium on technology research and effective operating practices to make this an even more efficient operation," said Wilkerson. "By increasing the fill height and the amount of radioactive waste loaded into each canister over the last contract period, we've eliminated the need to produce 305 canisters, saving hundreds of millions of dollars over the lifecycle of the facility."

(more)

P.2, DWPF Sets Record Attainment

Since radioactive operations began in 1996, the DWPF melter has produced over 8.5 million pounds of glass containing over 2.6 million pounds of radioactive sludge waste.

By immobilizing the radioactivity in glass “frit,” 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 safely 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 U.S. Department of Energy and operated by a team of companies led by the Washington Savannah River Company, a subsidiary of Washington Group International.