



U.S. DEPARTMENT OF ENERGY

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242-A EVAPORATOR CAMPAIGN CREATES 940,000 GALLONS OF DOUBLE-SHELL TANK STORAGE CAPACITY

Hanford's only nuclear processing facility, the 242-A Evaporator, has completed a successful operating campaign that reduced the volume of waste in two double-shell storage tanks by more than 940,000 gallons, providing additional storage space for waste transferred from aging single-shell tanks.

The evaporator's last waste processing campaigns were in 2007, when it reduced the waste volume in the double-shell tanks by more than 1.2 million gallons. A series of upgrades to the evaporator have since been completed. Upgrades include modernizing the ventilation system, updating the monitoring and control system, rebuilding one of two main pumps and decontaminating the condenser room to make it safer for workers.

"The 242-A Evaporator is critical to the safe and timely cleanup of the Hanford site," said Stacy Charboneau, ORP Assistant Manager for the Tank Farms. "It's the evaporator's job to make storage space in the double-shell tanks. Without the evaporator, we would have no storage space and, without storage space, we could not retrieve waste from the old single-shell tanks. That's why it is so critical to maintain and upgrade the facility."

In the evaporator, liquid tank waste is heated under vacuum so it will evaporate at a temperature of about 125 degrees F. Water vapor from the boiling waste is captured, condensed, filtered, sampled and sent to the nearby Liquid Effluent Retention Facility for further treatment and disposal. The concentrated waste is returned to the double-shell tanks.

Since it began operating in 1977, the 242-A Evaporator has reduced the total volume of waste in Hanford's tanks by 66 million gallons – the equivalent volume of 66 double-shell tanks – helping avoid the cost of building new storage tanks at Hanford.

The evaporator was originally expected to operate for about 10 years, but several upgrades have kept the facility operating safely for more than 30 years. Major upgrades completed in 1987 extended the evaporator's life to 2010. Additional upgrades, completed between 1989 and 2004, further extended the facility's life to 2018. A series of additional upgrades now under way will keep the facility operational until 2035.