

ENCON'S EVAPORATORS USED FOR DECOMMISSIONING RADIOACTIVE WASTE

The Company: Savannah River Nuclear Solutions, LLC (SRNS)
Location: Aiken, South Carolina
The Solution: ENCON Thermal Evaporator (20 oil fired systems)
Project Timeline: 2009-2012

Savannah River Site (SRS) is located in south-central South Carolina and occupies an area of about 310 square miles within Aiken, Barnwell and Allendale counties. It is owned by the Department of Energy (DOE), and the management and operating contract is held by Savannah River Nuclear Solutions, LLC, (SRNS).

During the Cold War Savannah River Site produced one third of the nation's weapons-grade plutonium and all of the nation's tritium—both integral components of nuclear weapons. When the Cold War ended, the United States no longer needed the amounts of new nuclear materials as before and a new focus began—on cleaning up the Cold War legacy and downsizing the nation's nuclear complex. Other nuclear sites across the nation were closed down, and their materials were sent to South Carolina for safekeeping.

One practice that was used at the Savannah River Site was to use large basins of water to cool irradiated components at their numerous reactor sites. The pooled water was also used as a radiological shield for the workers. After the sites were shut down in the 1980's these very large pools of contaminated wastewater remained.

A single basin at the Savannah River Site contained 4.6 million gallons of contaminated wastewater. This basin was targeted for decommissioning. To decommission this large basin of water Savannah River Nuclear Solutions began searching for a solution that would reduce the water volume.

SRNS and ENCON Evaporators worked closely together to determine the best possible solution. Many different fuel sources were considered and ENCON reviewed natural gas, propane, steam, electric, or fuel oil options with SRNS. Based on the specific site requirements SRNS determined that an oil fired system would work best for them. ENCON assisted with the system layout and oil supply system then eventually supplied ten fuel oil-fired evaporators as part of a Recovery Act project. The ENCON evaporator systems successfully evaporated 4.2 million gallons of the contaminated wastewater leaving less than 10% of the original volume in the basin. The remaining 400,000 gallons were removed after a shielding layer of grout was installed in the bottom of the basin.



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Satisfied with the performance of the ENCON Wastewater Evaporators in decommissioning of one basin in 2009; SRNS ordered an additional 10 systems for a second basin decommissioning in 2011. The job was also completed successfully.

If you are interested in solving your wastewater challenges, give ENCON a call at (603) 624-5110. Our Sales Engineers will help craft a solution to meet your unique wastewater disposal needs. If you'd like to learn more about Savannah River Nuclear Solutions, LLC or want to hear more of their success story, feel free to contact ENCON's Sales Engineer on the project, Jason Rouba at (978) 358-7412 or jrouba@evaporator.com.