

Facts

from the **Savannah River Site**

ENVIRONMENTAL STEWARDSHIP • NATIONAL SECURITY • SCIENCE AND ENERGY

Effluent Treatment Project

The Effluent Treatment Project (ETP) collects and treats wastewater that may be contaminated with small quantities of radionuclides and process chemicals.

ETP began treatment operations in October 1988. ETP was designed and constructed to allow the Savannah River Site (SRS) to meet all environmental regulations associated with the Resource Conservation and Recovery Act (RCRA) and the National Pollutant Discharge Elimination System (NPDES) under the South Carolina Pollution Control Act.

ETP is designed to process 100,000 to 250,000 gallons of low-level radioactive wastewater, with a maximum permitted facility capacity of 430,000 gallons per day. ETP encompasses wastewater collection and treatment operations that were modified for radioactive use. The ETP process involves a series of filters with treatment methods throughout the process. These filters separate solids and capture radionuclides within the effluent, so that the final effluent leaving ETP meets strict water quality criteria for release into natural streams.

The primary sources of wastewater include the 2H and 3H Evaporator overheads and H-Canyon contaminated water. The wastewater is processed through the treatment plant and pumped to Upper Three Runs Creek for discharge at a National Pollutant Discharge Elimination System (NPDES) permitted outfall. ETP captures remaining radionuclides and periodically transfers those

radionuclides to Tank 50, where it is stored prior to treatment at the Saltstone Production Facility and final disposal at the Saltstone Disposal Facility.

Potentially contaminated water is collected and sampled to determine if it is safe to discharge to the environment. If the water does not meet the drinking water standard, it is sent to ETP for treatment prior to release. ETP non-radiological effluents are discharged within limits of permits issued by SCDHEC. Radioactivity in SRS effluents is regulated by the U.S. Department of Energy (DOE) under Order 458.1, Radiation Protection of the Public and the Environment. Downstream of SRS, the Savannah River is used as a source of drinking water by water treatment plants in the Savannah, Georgia area. The federal Safe Drinking Water Act establishes safe standards for drinking water of four millirem per year, per person. In 2019, SRS-only releases were responsible for a maximum potential drinking water dose of 0.0076 millirem, which includes ETP. This dose is about 37% less than the 2018 dose.

Operation of ETP is approved and permitted by the South Carolina Department of Health and Environmental Control (SCDHEC) and the U.S. Environmental Protection Agency (EPA). ETP is operated by personnel that are certified by the South Carolina Environmental Certification Board. The operator-in-charge holds an "A" Physical/Chemical Wastewater Certificate, the highest level of certification granted by the board.



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U.S. DEPARTMENT OF
ENERGY

The Savannah River Site is owned by the U.S. Department of Energy. Savannah River Nuclear Solutions is the management and operations contractor at the Savannah River Site. Savannah River Remediation is the current liquid waste contractor at the Savannah River Site.

SRS[™]
SAVANNAH RIVER SITE