

T Area Closure

Background

T Area is located in the southwestern portion of the Savannah River Site (SRS), approximately one-quarter mile east of the Savannah River. T Area was a pilot-scale testing and evaluation facility that supported fuel and target manufacturing chemical processes and the Defense Waste Processing Facility (DWPF). The operations in T Area resulted in several releases to the environment, which have been grouped into four remediation operable units (OU).

- The TNX Area OU includes the New TNX Seepage Basin/Inactive Process Sewer Line/Overflow Discharge Area, the Old TNX Seepage Basin/Inactive Process Sewer Lines/Discharge Gully, a portion of the TNX Burying Ground, and the groundwater under the entire T-Area.
- The TNX Outfall Delta, Lower Discharge Gully, and Swamp OU consist of the lower discharge gully and outfall delta caused by discharges from the Old TNX Seepage Basin and the swamp area adjacent to the outfall delta.
- The X-001 Outfall Drainage Ditch OU consists of a ditch leading to the eastern portion of T Area.
- T Area Closure consists of the remaining Inactive Process Sewer Lines, associated Tile Fields, remaining portions of the TNX Burying Ground not characterized in the TNX Area OU, and building slabs.

T Area is targeted for closure and removal from the Superfund's National Priorities List (NPL) in 2006. Building demolition and waste site closures are actively being worked by the Site Deactivation and Decommissioning (D&D) and the Soil and Groundwater Closure Projects (SGCP) of the SRS Closure Business Unit. Site D&D is responsible for the demolition of 29 buildings totaling 166,145 square feet and SGCP is responsible for closing the OUs and T Area.

Environmental Concerns

Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation and Baseline Risk Assessments (RFI/RI/BRA) for the TNX Area and TNX Outfall Delta, Lower Discharge Gully, and Swamp OUs have identified radionuclide and metal contamination in soils that present a potential risk to human health or the environment.

Sampling data from a network of monitoring wells indicate groundwater contamination exists beneath T Area. The primary groundwater contamination is trichloroethylene (TCE), tetrachloroethylene (PCE), and carbon tetrachloride. The contamination plume is limited to the shallow water table aquifer that extends to the swamp area and west of T Area. No contamination from T Area has been detected in the Savannah River.

The pre-characterization work at the X-001 Outfall Drainage Ditch OU indicates that a limited volume of soil (approximately 500 yd³) is contaminated with low levels of polychlorinated biphenyls (PCBs) from 0 to 4 feet below land surface, and uranium above industrial worker risk levels.

Pre-characterization data indicates mercury is a likely contaminant migration concern along portions of the Inactive Process Sewer Lines from three buildings (672-T, 677-T, and 678-T). These sewer lines comprise approximately 321 linear feet of 2-inch stainless steel pipe, approximately 40 linear feet of 6-inch stainless steel pipe, and approximately 1,277 linear feet of 8-inch vitrified clay pipe.

Tile Field #2 located in the western portion of T Area could be contaminated from building operation processes. Preliminary review of available pre-characterization data indicates that approximately 1300 yd³ of soils presents a contaminant migration threat to groundwater from mercury and other metals.

Based on available historical data and recent field measurements, portions of the TNX Burying Ground that could not be characterized within the TNX Area OU are suspected to contain radionuclides and mercury above future industrial worker risk levels or present a threat to groundwater.

Decontamination and removal of T Area structures are not complete. Final disposition reports with assessments of residual risk from building slabs will be completed and evaluated when D&D activities are complete.

Environmental Actions and Plans

In 1999, a combined RFI/RI/BRA was approved for the TNX Area OU and the Record of Decision (ROD) certified by the regulators in March 2004. Remedial action is scheduled to start in September 2004 with plans to:

- Excavate 4,000 yd³ of contaminated soils at OTSB and ship offsite
- Backfill the OTSB and construct engineered closure caps
- Backfill the NTSB and install institutional controls
- Continue Soil Vapor Extraction at the TBG and
- Continue using the pump and treat system to remediate the TNX Groundwater.

The TNX Outfall Delta, Lower Discharge Gully, and Swamp OU RFI/RI/BRA was approved in November 2002 and the Corrective Measures Study/Feasibility Study is conditionally approved. The Lower Discharge Gully will be remediated with the Old TNX Seepage Basin subunit of the TNX Area OU. Contaminated soil from the inner swamp to be excavated and stockpiled in T Area.

Contaminated areas of the X-001 Drainage Ditch OU and T Area Tile Field #2 will be excavated and stockpiled in T Area. The X-001 Drainage Ditch OU and T Area Tile Field #2 will receive clean closure. The contaminated, stockpiled material from the X-001 Drainage Ditch OU, tile fields and inner swamp will be dispositioned under the T Area Closure ROD. The Inactive Process Sewer Lines, remaining portions of the Burying Ground, and the building slabs will also be managed under T Area Closure ROD.

Building demolition activities began in October 2002, and by June 2004, 28 buildings were demolished. The one remaining building is scheduled for demolition by September 30, 2004. The T Area ROD is scheduled for approval in April 2005 and T Area is scheduled for deletion from the NPL in 2006.