Fact Sheets

SRS

Savannah River Technology Center

The Savannah River Technology Center (SRTC) is the Savannah River Site's applied research and development (R&D) laboratory, providing technical support for the site's missions, working in partnership with the site's operating divisions. To ensure that the best solutions are provided for its SRS customers, SRTC partners with industry, universities and other DOE laboratories.

In recent years, SRTC's role as a "corporate citizen" in the DOE complex has expanded, resulting in increasing opportunities for the lab to share with other DOE sites and other federal agencies its experience in effectively implementing new technologies. SRTC is also active in transferring technology to American industry and establishing partnerships with industry and academia.

The DOE has selected SRTC as the Lead Laboratory for its Subsurface Contaminants Focus Area, a national program devoted to developing and implementing technology solutions to meet a broad spectrum of soil and groundwater remediation needs complex-wide. The Lead Laboratory is a virtual organization managed by SRTC and composed of technical experts from 10 partner national labs. The lead lab provides the Focus Area with a sound technical basis for operation, long-range planning for technical investments, and technical assistance to the various DOE sites across the complex.

Originally called Savannah River Laboratory, the lab changed its name to SRTC in 1992 as its scope expanded to better meet the challenges of the era. Historically, SRTC has served as the technology partner for SRS in its nuclear weapons materials production mission. As the world has changed, and the site's mission has evolved, SRTC's role has evolved as well. Today, the lab provides the technical leadership for SRS to address challenges in the site's three areas of responsibility: Stockpile Stewardship, Nuclear Materials Stewardship and Environmental Stewardship.

SRTC has approximately 770 employees, most of whom work in five technical departments.

The Waste Treatment Technology Department provides the technical basis and support for the storage and disposal of all waste at SRS – liquid, solid, hazardous, mixed, transuranic, radioactive and non-radioactive – and provided the technology for the Defense Waste Processing Facility processes and facilities involving vitrification of waste into glass. In other support for the site's waste management activities, SRTC worked with the High Level Waste Management Division to develop grout

formulations used to stabilize the site's high-level waste tanks for closure. The lab is also taking the experience gained by working on the Defense Waste Processing Facility and using it to support the Hanford Site (in Washington state) in development of processes to stabilize their high-level waste.

The Environmental Sciences & Technology Department (ES&TD) solves technical environmental issues and develops and deploys technologies for environmental remediation and compliance programs. Activities include developing new characterization, monitoring, sensing and remediation (including bioremediation) technologies for site cleanup operations. In addition, the department identifies, demonstrates, proves and deploys technologies developed by others. Technologies developed and/or deployed by ES&TD are also being applied at other sites within the DOE complex, as well as by other federal agencies and private industry. One example of SRTC's environmental technologies is the GeoSiphon™ Cell, a passive treatment technique for contaminated groundwater. Because the GeoSiphon uses natural hydraulic changes, the system can operate indefinitely without any external power supply.

The Strategic Materials Technology Department provides materials, chemistry and process support to ongoing site activities, while providing the technology development for gaining future site missions. The department supports site programs to prepare residual actinides for stabilization and disposal; it also provides technology and process development support for all tritium operations and provides direct technical support to weapons design agencies at their request. The department is the SRS authority in all materials issues, including assessments of degradation of materials and of systems structural integrity, and development of component fabrication technology.

The lab's tritium work has led to an expertise in hydrogen that is applicable beyond the DOE complex. SRTC is working with several partners to design, develop, demonstrate and ultimately commercialize a zero-emission light-duty electric vehicle – suitable for transport and delivery in factories, airports and warehouses – that runs on renewable hydrogen energy. This vehicle uses a hydrogen storage system that is based on the hydride technology SRTC developed for use in the site's tritium mission.

The Engineered Equipment & Systems Department provides engineering and technical support to SRS, including instrumentation, data acquisition, remote handling, robotics, specialized process equipment, non-destructive examination techniques, system integrity evaluations, engineering modeling, experimental thermal-fluids analysis and radioactive material packaging and transportation. Their work supports site missions in all three of its stewardship arenas.

Working with the site's High Level Waste Management Division, the lab developed a removable pour spout insert to improve the Defense Waste Processing Facility's operations. This insert enables higher pour rates and is projected to save $200 million over the lifetime of the facility. SRTC also developed the Plutonium Bagless Transfer systems, a compact, low-cost system for packaging plutonium without the use of plastic. Broad application of this technology across the DOE complex has the potential to save the government millions of dollars.

The Measurements Technology Department provides the technology involved with the detection and measurement of radioactive, hazardous chemical and thermal emissions from SRS and develops similar technologies for safeguarding special nuclear materials nationally and internationally. The department also provides analytical capability by means of chemical analysis, material characterization, method development and development of new analyzer technologies. This group plays a leadership role in the deployment of new technologies and delivery of technical services in support of non-proliferation, national security and law enforcement agencies. Under an agreement between the DOE and the Department of Justice, SRTC provides unique technology support to local and regional law enforcement agencies and the FBI.