

AT A GLANCE: SAVANNAH RIVER NATIONAL LABORATORY



From the beginning, Savannah River National Laboratory (SRNL) has put science to work to protect our nation. When it was established in the early 1950s, the laboratory's primary focus was the start-up and operation of the Savannah River Site (SRS), including its five reactors, to produce tritium and plutonium—the basic materials for the U.S. nuclear weapons used to maintain the balance of power during the Cold War. Today, SRNL protects our Nation by supporting multiple federal agencies in providing practical, cost-effective solutions to nuclear materials management, national security, environmental stewardship, and energy security challenges. Building upon its pioneering work at SRS, SRNL now performs cutting-edge scientific research and technology development in various fields to protect the country's interests here and around the world.

FUNDING BY SOURCE

FY 2019 Costs (in \$M)

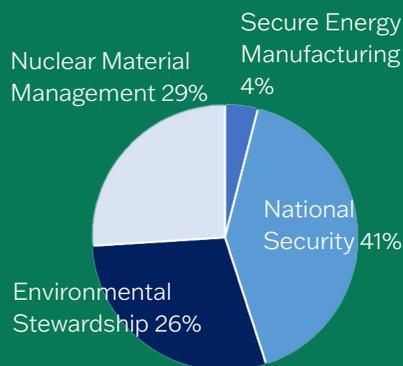
Total Laboratory Operating Costs: \$289

National Security Costs: 41%

Nuclear Materials Management: 29%

Environmental Stewardship: 26%

Secure Energy Manufacturing: 4%



HUMAN CAPITAL

1,000 FTE employees

500+ engineers and scientists (200+ Ph.D.s)

26 postdoctoral researchers

50 student interns

CORE CAPABILITIES

Environmental Remediation and Risk Reduction

Nuclear Materials Detection, Characterization, and Assessment

Nuclear Materials Processing and Disposition

Tritium Processing, Storage, and Transfer Systems

MISSION UNIQUE FACILITIES

Atmospheric Technology Center

FBI Radiological Evidence Examination Facility

Outfall Constructed Wetland Cell Facility

Radiological Testbed Facilities

Shielded Cells Facility

Ultra-Low-Level Underground Counting Facility

FACTS

Location: Aiken, SC

Type: Multiprogram Laboratory

Contractor: Savannah River Nuclear Solutions

Site Office: Savannah River Site

Website: srnl.doe.gov

PHYSICAL ASSETS

39 acres

13 nuclear facilities with more than 200,000 GSF of radiologically controlled laboratory and process space, with 155 laboratories and 326 offices

\$2 billion (approx.) replacement plant value

829,800 GSF in buildings/trailers/etc.

58,850 GSF in leased facilities

AT A GLANCE: SAVANNAH RIVER NATIONAL LABORATORY



ACCOMPLISHMENTS



Unique Facility: Improving Energy Storage - SRNL developed novel, high-temperature thermal energy storage (TES) material based on a ternary alloy of low-cost and highly abundant elements. The novel metal hydride has higher gravimetric and volumetric energy densities than other materials, as well as enhanced thermal conductivity and reaction rates under operating conditions. This allows for a reduction in heat exchangers, thereby reducing system costs.



Tech-to-Market Highlight: Recovering Rare Nuclear Material - In an ongoing project to harvest Pu-244, a material not found anywhere else within the United States and maybe the world, SRNL built a full-scale mock-up of equipment for training and process development. The equipment, training, and processes will be used for the future transfer of the MK-18A targets into SRNL hot cells. The targets will be reduced in size, and chemical processes will be applied to recover plutonium, americium/curium, and other isotopes, that will then be packaged for shipment.



Research Highlight: SRNL Collaboration Across the DOE Complex - SRNL led a multi-laboratory Technical Review Team (TRT) to assess the potential reactivity of LANL remediated nitrate salt drums stored at the Waste Control Specialists facility. The TRT concluded that the drums remain vulnerable because of the content uncertainty, but the nitric acid chemistry has caused an increased stability, which should improve with engineering controls (temperature and venting) during removal and transport.