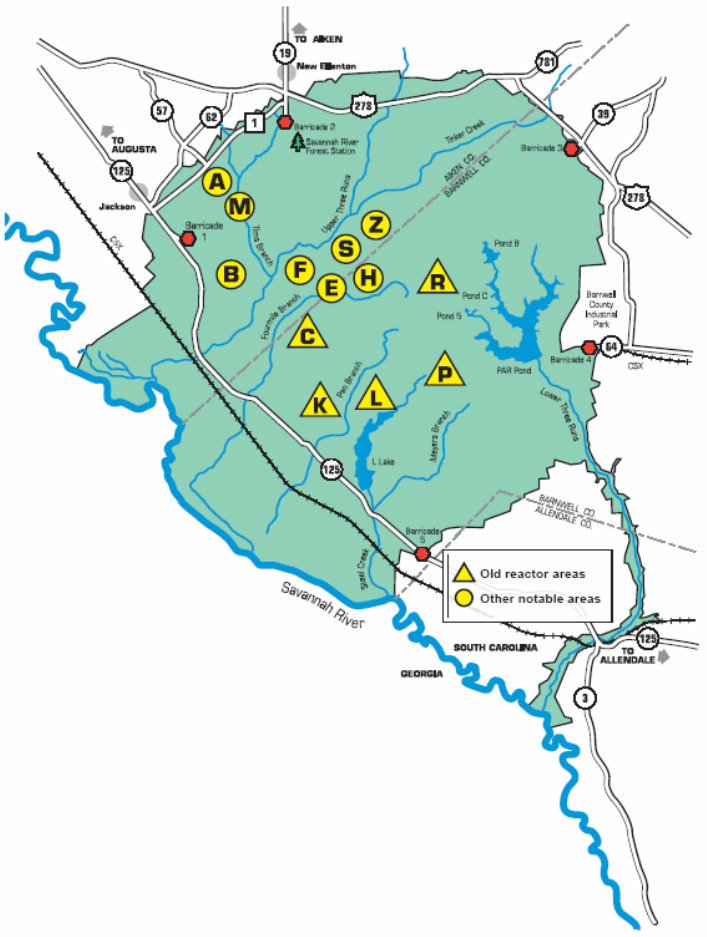
FACTS
ABOUT THE SAVANNAH RIVER SITE

Savannah River Site

- **198,000 acres= 310 square miles**
- **DOE/SRS and NNSA/SRS**
- **Contractors**
  - Washington Savannah River Company (WSRC)
  - Wackenhut Services, Incorporated (WSI)
  - Shaw AREVA MOX Services
  - Parsons
  - U.S. Forest Service
  - University of Georgia
- **SRS workforce: 11,000 (as of 12/31/07)**
  - Approximately 77% WSRC
- **Annual budget ~ $2 billion**
- **EM lifecycle baseline ~ $36.4B (FY 07-31)**
- **Future missions**
  - Mixed Oxide Fuel (MOX) Fabrication Facility (construction under way)
  - Pit Disassembly and Conversion Facility (in design phase)
- **Possible future missions**
  - National Energy Park
  - Hydrogen fuel
  - Global Nuclear Energy Partnership



Dedicated to maintaining the highest possible safety and security standards, the Savannah River Site (SRS) is a key Department of Energy (DOE) industrial complex responsible for stewardship of the environment, the enduring nuclear weapons stockpile and nuclear materials. More specifically, SRS processes and stores nuclear materials in support of national defense and U.S. nuclear non-proliferation efforts. The Site also develops and deploys technologies to improve the environment and treat nuclear and hazardous wastes left from the Cold War.

The SRS complex covers 198,344 acres, or 310 square miles encompassing parts of Aiken, Barnwell and Allendale counties in South Carolina, bordering the Savannah River. The site is owned by DOE and operated by an integrated team led by WSRC (parent company URS Washington Division).

Savannah River Site Focus

The Savannah River Site is committed to its people, missions and the future. SRS has a long track record of being the safest site in the DOE complex and one of the safest major industrial sites in the world. Protecting workers, the public, the environment, and national security interests is its highest goal. SRS will continue to

maintain needed facilities and infrastructure while training and retaining a skilled and motivated workforce to ensure its technical capability and performance.

Recognizing the imperative of open communication and trust, SRS will strive to accomplish regulatory milestones and community-driven obligations among its various neighbors and stakeholders. We also focus on cost- effectiveness in contract and project management and a cross-cutting corporate perspective that will best serve SRS, other DOE sites and national laboratories, and the U.S. Government.

History

During the early 1950s, SRS began to produce materials used in nuclear weapons, primarily tritium and plutonium-239. Five reactors were built to produce nuclear materials. Also built were support facilities, including two chemical separations plants, a heavy water extraction plant, a nuclear fuel and target fabrication facility, a tritium extraction facility and waste management facilities.

Irradiated materials were moved from the reactors to one of the two chemical separations plants. In these facilities, known as "canyons," the irradiated fuel and target assemblies were chemically processed to separate useful products from waste. After refinement, nuclear materials were shipped to other DOE sites for final application. SRS produced about 36 metric tons of plutonium from 1953 to 1988.

New Missions

SRS is one of the primary DOE sites with missions to address issues of national security and non-proliferation, including legacy material disposition.

SRS continues as DOE's center for the supply of tritium to the enduring nuclear weapons stockpile. DOE will use existing commercial reactors in the Tennessee Valley Authority (TVA)system as the primary new source of tritium. In November 2006, the Tritium Extraction Facility began to extract the tritium from rods irradiated in TVA's reactors and load it into containers for shipment to the Department of Defense.

Plutonium and nuclear material management missions now being conducted at SRS will be expanded to include materials from dismantled weapons and surpluses from other DOE sites. This new mission will be focused on the disposition of excess weapons-grade material consistent with the U.S.-Russian agreement on nonproliferation. DOE has chosen SRS to be the location for the Department's plutonium pit disassembly and conversion and mixed oxide fuel fabrication facilities. These missions, which convert excess weapons-usable plutonium to a form that can be used in commercial power reactors, establish SRS's vital role in plutonium management for DOE.

On August 1, 2007, construction began for the Mixed Oxide Fuel Fabrication Facility, which is being built in F Area and will be operated by Shaw AREVA MOX Services. The Pit Disassembly and Conversion Facility, which will disassemble pits and convert the plutonium inside into MOX fuel, is being designed by URS Washington Division. A support facility for these two plants, called the Waste Solidification Building, is being designed by WSRC and is about 80 percent complete.

Ongoing Missions

Tritium

Tritium, with a half-life of 12.3 years, must be replenished, and SRS is the Nation's only facility for extracting, recycling, purifying and reloading tritium so that nuclear weapons reservoirs can be returned to service. Recycling tritium allows the United States to stretch its tritium supplies.

The Nation's tritium production capability was lost when the last heavy water reactor at SRS shut down in 1988. Interim stockpile requirements were met through recycling, which involved recovering and purifying the gas from dismantled nuclear weapons and from routine tritium reservoir exchanges from the existing nuclear stockpile. In December 1998, DOE announced that commercial reactors would be the source for new tritium production. The TVA's Watts Bar Unit 1, Sequoyah Unit 1, and/or Sequoyah Unit 2 reactors were selected for irradiation of DOE-supplied Tritium Producing Burnable Absorber Rods (TPBARs). The TPBARs are irradiated in the Watts Bar reactor and then transported to SRS, where the tritium is safely and efficiently extracted in the Tritium Extraction Facility (TEF). The tritium is then piped to the existing Tritium Loading Facility at SRS for further purification prior to loading into reservoirs for shipment to the Department of Defense (DOD).

In October 2003, the first TPBARs were inserted into TVA's Watts Bar reactor for irradiation. The first shipment of irradiated TPBARs arrived at SRS in August 2005 and was stored, awaiting completion of the TEF. A celebration of the completion of non-radioactive startup testing in TEF was held on Feb. 28, 2006. Over 700 different systems and components were successfully tested. Included among the startup accomplishments were hydrogen tests, shielding surveys, and the startup tests of individual components and remote handling features. The startup testing program was accomplished six months ahead of the baseline schedule. In November 2006, the NNSA approved radioactive startup of the TEF and the first tritium was introduced into the building. The first tritium was extracted from TPBARs in January 2007 and transferred via underground piping to the Tritium Loading Facility in February 2007.

Canyon Operations

SRS's two primary separations facilities, called canyons, are located in F and H areas. F Canyon and H Canyon – together with FB Line and HB Line, which are located atop the canyons – are where nuclear materials historically have been chemically recovered and purified.

HB Line has produced plutonium-238 for NASA. In 1995, SRS completed a five-year campaign to supply plutonium-238 for NASA's Cassini mission, an unmanned expedition to the planet Saturn, which was launched October 13, 1997, and arrived at the ringed planet July 1, 2004, after a flawless flight.

Currently, H Canyon continues to stabilize and manage the remaining inventory of plutonium-bearing materials at SRS. DOE determined that H Canyon should be used to convert weapons-usable highly enriched uranium to low-enriched material. No longer weapons-usable, the material is suitable as fuel in commercial power reactors until 2019.

SRS has "blended down" weapons-usable highly enriched uranium to make low enriched uranium, which is being converted to commercial reactor fuel for use by TVA. Since February 2003, SRS uranium has been

blended down and shipped to TVA for use in its Browns Ferry reactors. This material is now providing electricity for homes throughout the Southeast

F Canyon and FB Line have completed their production mission and have been deactivated. Both F Canyon and FB Line are "cold, dark and dry."

Nuclear Materials Management

Nuclear Materials Management (NMM) operations at SRS's K Area provide an interim safe storage location for much of DOE's excess plutonium. New plutonium facilities are being built at SRS, under a Record of Decision issued by the DOE in 2000. This makes SRS the Nation's cornerstone of excess plutonium management and disposition.

The DOE saved millions of dollars during cleanup at the Rocky Flats Environmental Technology Site in Colorado by providing safe and secure storage of its excess plutonium material at SRS. Shipments are now ongoing from the Hanford Site (Washington) and are expected to begin soon from the Lawrence Livermore National Laboratory (California) and Los Alamos National Laboratory (New Mexico).

The K Area Complex (KAC) is DOE's only special nuclear material (SNM) storage facility designated for interim safe storage of plutonium at SRS. The building formerly housed K Reactor, which produced nuclear materials to support the United States nuclear weapons program during the Cold War. It was the DOE's last operating production reactor, finally shutting down in 1992.

Spent Nuclear Fuel

Spent nuclear fuel from the site's production reactors, and from domestic and foreign research reactor programs, is currently stored in L Area's disassembly basin, a large, water-filled, reinforced-concrete facility, awaiting final disposition.

DOE has announced plans to use conventional processing, through H Canyon, as the final disposition of all SRS aluminum-clad SNF. This plan also includes exchanging SRS's stainless steel and zirconium clad fuel for aluminum-based fuel stored at the Idaho National Laboratory. SRS will continue to receive aluminum-based SNF from foreign and domestic research reactors until the planned shutdown of H Canyon in 2019. Conventional processing of this SNF will provide additional uranium for the HEU Blend Down program and produce liquid waste to be vitrified in the Defense Waste Processing Facility. The final disposition of DWPF canisters containing vitrified SNF waste will be placement in a geological repository.

Since 1964, SRS has received over 2,240 casks containing 45,000 SNF assemblies. Fuel types include uranium-aluminum alloys, uranium oxides and uranium silicides, and others that vary in uranium enrichment between 19 and 93.5 percent uranium 235. SFP has received and handled about 10 different spent nuclear fuel transportation casks weighing up to 65,000 pounds. SFP also made about 360 on-site spent fuel cask transfers during this time.

SRS personnel have extensive experience in safely receiving and managing SNF. This work continues to be accomplished with no lost time injuries for the last 15 years.

Waste Management

Nuclear material production produced unusable byproducts, such as radioactive waste. About 36 million gallons of radioactive liquid waste are stored in 49 underground tanks.

The Defense Waste Processing Facility (DWPF) is processing the high activity waste, bonding radioactive elements in borosilicate glass, a stable storage form. DWPF began operations in March 1996.

Much of the volume in the tanks ultimately will be separated as relatively low-level radioactive salt solution, which is mixed with cement, ash, and furnace slag and poured into permanent concrete vaults for disposal at a facility called Saltstone.

In addition to radioactive liquid waste, other radioactive wastes at the site are: low-level solid and liquid waste (which includes items such as protective clothing, tools and equipment that have become contaminated with small amounts of radioactive material); and transuranic waste, which contains alpha-emitting isotopes with an atomic number greater than uranium. Other wastes include hazardous waste, which is any toxic, corrosive, reactive or ignitable material that could affect human health or the environment; mixed waste, which contains both hazardous and radioactive components; and sanitary waste, which, like ordinary municipal waste, is neither radioactive nor hazardous.

SRS disposes of low-level radioactive waste onsite in engineered trenches, vaults, or grout-filled trenches, depending on the degree to which the waste needs to be isolated from the environment. Some types of low-level waste are technically unsuitable for disposal at SRS waste management facilities. In July 2001, SRS began shipping some of these wastes to offsite treatment and disposal facilities.

Transuranic (TRU) waste had been stored temporarily at SRS until the opening of the Waste Isolation Pilot Plant (WIPP) in New Mexico; WIPP is a DOE deep geological disposal facility specifically designed for TRU waste. In 2001, SRS began shipping its TRU waste, about 28,000 legacy drums—about 6,000 cubic meters—to WIPP. At the end of 2007, over 24,000 55-gallon drums, or 5,000 cubic meters, of the original TRU waste inventory has been shipped. SRS's current projections have the site scheduled to ship all of the SRS TRU drummed waste to WIPP by 2010, 24 years ahead of the original baseline.

Hazardous waste is routinely shipped offsite to commercial facilities for treatment and disposal. In 2001, SRS made its first-ever shipments of mixed waste for treatment offsite, and continues to decrease the inventory of mixed waste using available RCRA-regulated treatment and disposal vendors.

Decommissioning and Demolition (D&D)

SRS is concentrating on shrinking the footprint left from decades of operations and to also better position the site for future missions. The lifecycle scope for D&D is 1,013 facilities, and over 260 were completed by the end of 2007.

SRS is focusing on closing entire areas, one at a time. Areas at the periphery of SRS are targeted first—T Area, D Area, A Area and M Area. F Area is also undergoing intense D&D because of the opportunity it presents for major risk elimination.

In 2006, T Area achieved closure under the new Area Completion process, the first area at SRS to do so. Demolition work is complete in D and M areas. In A Area, the Savannah River National Laboratory will remain, along with certain administrative support facilities.

Soil and Groundwater Cleanup

The Savannah River Operations Office Area Completion Project (ACP) is responsible for waste units and surface water and groundwater remediation. ACP approaches environmental restoration by utilizing effective project management, continuous communications, and strong working relationships with the regulators. Deployment of numerous cost-effective technologies expedites the cleanup process.

Remediation under ACP began in early 1993 and continues at an aggressive pace with 327of the 515 inactive waste units completed, with 1,980 associated cleanup milestones met.

The focus is on cleaning up contamination in the environment. The approach is to treat or immobilize the source of the contamination to mitigate transport through soil and groundwater and clean up or slow the movement of contamination that has already migrated from the source. From capping waste sites to installing efficient groundwater treatment units, field work is a top priority. Field work includes closure of inactive seepage basins, rubble pits, rubble piles, and disposal facilities. Major groundwater cleanup systems operate in A/M, C, F, H, and T areas as well as in the Mixed Waste Management Facility, the Chemical, Metals, and Pesticides Pits, and in the Nonradioactive Waste Disposal Facility.

Remediation is being executed in a fashion that completes environmental cleanup and facility decommissioning area by area until all areas at SRS are completed by 2031. Units at which waste is left in place will be under institutional controls that feature access restrictions, inspection, maintenance, and long-term stewardship monitoring. Typically, soils will be remediated to an acceptable residual risk for industrial workers. Groundwater will be addressed in a manner such that required cleanup levels, approved by regulators, will be achieved over time.

Site contractors and DOE work with the U.S. Environmental Protection Agency (USEPA), and the South Carolina Department of Health and Environmental Control (SCDHEC) to reduce risk and accelerate SRS environmental cleanup. Two major federal laws drive environmental cleanup: the Resource Conservation and Recovery Act (RCRA), which establishes a system for tracking and managing hazardous wastes from generation to disposal; and the Comprehensive Environmental Response, Compensation, and Recovery Act (CERCLA), or Superfund, which addresses the protection and cleanup of the environment from known operable units. SRS is meeting the integrated requirements of these two laws through a Federal Facility Agreement (FFA) with DOE, USEPA Region 4, and SCDHEC. The FFA, effective August 16, 1993 specifies how SRS will address contamination or potential contamination at waste units in accordance with RCRA and CERCLA requirements. The FFA is required under CERCLA.

Research and Development

The Savannah River National Laboratory creates, tests and deploys solutions to the technological challenges facing the Site and the nation in three key areas: national and homeland security, energy security, and the environment. SRNL researchers have made significant advances in glass technology, hydrogen technology, nonproliferation technology, environmental characterization and cleanup, sensors and probes, and other fields.

The laboratory's 670-person research staff includes several internationally recognized experts; one-fourth of the research staff members have doctorates. SRNL's unique facilities include biotechnology laboratories, laboratories for the safe study and handling of radioactive materials, a field demonstration site for testing and evaluating environmental cleanup technologies, and laboratories for ultra-sensitive measurement and analysis of radioactive materials.

Today, while the laboratory continues to solve the site's technological challenges, half of its work comes from non-SRS customers, including DOE, the National Nuclear Security Administration, other DOE sites and other federal agencies. The laboratory's largest work-for-others contract to date is a $62 million, multi-year contract to demonstrate and evaluate the processes that will be used at the Hanford site to treat and dispose of the waste in Hanford's waste tanks.

Because of the increased emphasis on sharing the site's expertise with the nation that, for more than four decades, has invested in its work, SRNL now forms strategic partnerships with private industry, academia and other government agencies to apply the laboratory's unique expertise to challenges of mutual interest. For example, SRNL is applying its extensive hydrogen expertise in collaboration with the automotive industry to develop the technologies needed to make the widespread use of hydrogen vehicles practical for the American consumer, including methods for efficiently storing hydrogen on board a vehicle.

The laboratory also shares its expertise by licensing private companies to manufacture and/or market technologies created at SRNL, a move that helps American businesses sharpen their competitive edge and provides taxpayers a second return on their investment.

Environment

Originally farmland and swamp land, SRS now encompasses a timber and forestry research center managed by the U.S. Forest Service-Savannah River.

In 1972, DOE's predecessor agency, the Atomic Energy Commission, designated SRS as the first National Environmental Research Park. SRS is home to the bald eagle and the red-cockaded woodpecker, an endangered species. Other endangered species, including the shortnose sturgeon and wood stork, visit the Site from time to time. Other wildlife commonly found on the site includes alligators, white-tailed deer, wild turkeys and otters.

Employment

Today, about 11,000 people are employed at SRS, making it one of the largest employers in South Carolina. About 86 percent are employees of WSRC and its major subcontractors. DOE employees represent about 3.7 percent of the SRS population. The rest are other WSRC subcontractors and DOE contractors; the site's

security contractor, Wackenhut Services Inc.; Shaw AREVA MOX Services; Parsons; Savannah River Ecology Laboratory; and U.S. Forest Service-Savannah River.

Economic Impact

The site's economic impact ripples across a two-state area at a rate of about $2.6 billion each year. Currently, our overall budget is about $2 billion. Of that, roughly 70 percent is payroll and employee benefits. The site spends about $200 million each year in procurements in the two-state area. Site employees paid over $150 million in federal and state taxes, and $97 million in medical claims.

February 2008

Note: Under the contract that went into effect Oct. 1, 1996, and was extended with modifications through June 2008, WSRC is responsible for the Site's nuclear facility operations; Savannah River National Laboratory; environment, safety, health and quality assurance; and all administrative functions. The team also includes Bechtel Savannah River Inc. (parent company Bechtel National Inc.), which is responsible for soil and groundwater closure projects, project management, design and construction services; BWXT Savannah River Company (parent company Babcock & Wilcox Technical Services Group), which is responsible for nuclear materials management and Tritium Extraction Facility startup and operations; BNG America Savannah River Corporation (parent company EnergySolutions), which is responsible for the site's solid waste activities and infrastructure; and CH2 Savannah River Company (parent company CH2M HILL), which is responsible for deactivation, decommissioning and demolition.