



Results for today. Vision for tomorrow.



Savannah River
NUCLEAR SOLUTIONSSM

FLUOR DANIEL • NORTHROP GRUMMAN • HONEYWELL



Safety is at the heart of all we do.



We are one company touching thousands of lives



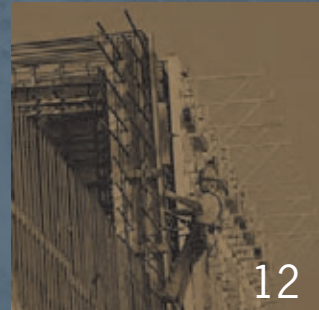
American Recovery and Reinvestment Act at SRS



SRNL: Putting science to work for America



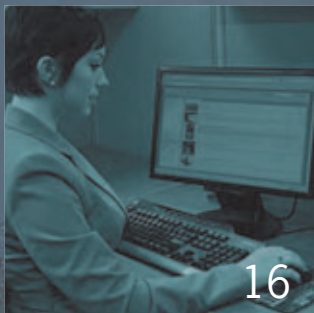
Supporting our nation's nonproliferation goals



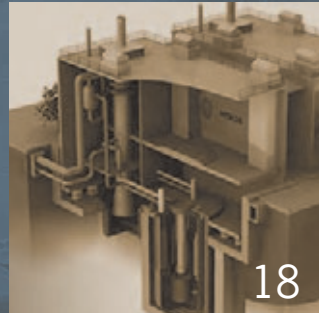
National Nuclear Security Administration Programs



Improving SRS through infrastructure and engineering



Supporting our business, developing our talent



Strategic leadership for our nation's future

2010: A year of change, a year of progress

Welcome to the SRNS 2010 Annual Report.

Savannah River Nuclear Solutions (SRNS) saw a number of changes this year and accomplished a great deal, as you'll see in the following pages.

Our safety record was the best for a contractor at the Savannah River Site (SRS) in 25 years. Our operations and service subcontractors reached 11 million safe hours this summer and since have achieved over four million safe working hours since our last recordable incident. Construction personnel extended their 12-year record to 24 million safe working hours, and the Savannah River National Laboratory (SRNL) was the safest of all the national laboratories again for the sixth consecutive year. SRNS also received recertification from the Department of Energy (DOE) Voluntary Protection Program and another star of excellence recognition. We were also proud to assist DOE-Savannah River in hosting the ISM Champion's Workshop for the first time in the Central Savannah River Area this fall.

In 2010, SRNS performed our current mission safely, delivering our work products in a quality manner and on the timeline expected by our customers. In many cases we exceeded their expectations. We reduced the environmental footprint from past operations by more than 113 square miles. We made notable progress under the American Recovery and Reinvestment Act, completing the closure of M Area, decommissioning three reactors and disposing of transuranic waste.



A handwritten signature in black ink that reads "Garry Flowers". The signature is fluid and cursive, written over a white background.

Garry Flowers

*SRNS President and
Chief Executive Officer*

All of this was accomplished while being good stewards of the taxpayers' money. In H Area, we reduced direct cost by five percent in fiscal year 2009 and four percent in fiscal year 2010, without sacrificing performance.

We increased our efforts to grow SRNL and attract new businesses to grow our mission at SRS. These efforts should provide a sustainable future for SRNL with the recent research alliances for small modular reactor development at SRS. These alliances with Hyperion Power Generation and GE Hitachi could easily lead to technology development and onsite demonstrations of reactor designs.

The future at SRS is bright, and our company is taking steps to position ourselves to meet DOE's expectations and be its contractor of choice for many years to come. That's not possible without community support. Thank you for your continued interest in SRNS. I hope you enjoy this review of 2010, and I look forward to another great year in 2011.



Safety is at the heart

The SRNS Environment, Safety, Health and Quality (ESH&Q) Division increased its focus on worker safety, resulting in record-breaking safety statistics for the company. In addition to its integral role in SRS safety, ESH&Q shares its knowledge with the community, partnering with Ft. Gordon and local towns in conducting Fire Department training, sharing expertise with other DOE sites and commercial companies, and partnering with Aiken Technical College in hosting the nation's largest class of radiological technicians.

In 2010, SRNS Operations employees worked
11 million safe hours

without a lost time injury.

Construction employees extended a 12-year run to
24 million safe hours

without a lost time injury.



SRNS had the “**safest**” **total recordable case rate** since 1985 for DOE Operations and Subcontractors under the current DOE reporting structure.

To ensure the safety of all SRS workers, SRNS manages a quarterly **Subcontractor Safety Forum** to address safety topics and emerging issues with SRS work.

of all we do.

In October 2010, SRNS received recertification status by the U.S. Department of Energy (DOE) Voluntary Protection Program (VPP). SRNS was awarded the **DOE VPP Star of Excellence** for exceptional safety performance in 2009 and has earned three Legacy of Stars awards by achieving the Star of Excellence for three consecutive years.



SRNS was recognized by the National Safety Council and the South Carolina Manufacturers Alliance for **excellent injury rate performance**, acknowledging that the operations rate for lost and restricted workday cases was far less than the industry average.



To share its safety knowledge with the rest of the Complex, SRNS assisted DOE in hosting the 2010 DOE **Integrated Safety Management Workshop** in September 2010. More than 1,000 attendees from across the DOE Complex participated in the workshop, which also included a “Family Night” for SRS employees.



We are one company

Savannah River Nuclear Solutions is a significant community partner, with millions of dollars of donations from our employees and our parent companies—Fluor, Northrop Grumman and Honeywell. SRNS employees give of their time and talent as well, whether it's wielding a hammer on a Habitat for Humanity house or encouraging children to achieve their highest potential. The SRNS Public Affairs Division provides responsible corporate programs to develop and maintain stakeholder relationships, and to inform and educate the public, employees and media about our missions.

SRNS sponsored the first **Habitat for Humanity** home in Jackson, S.C. SRNS donated \$50,000, and 400 employee volunteers built the house.

The ribbon cutting was an exciting moment for new homeowner Dena Garrett and children Robert and Katie (front row) as well as (back row) Richard Harmon, President, Aiken County Habitat for Humanity; and Fred Dohse, SRNS Executive Vice President.



The SRS Tours Program, coordinated and operated by SRNS, offers the public and stakeholders a first-hand view of SRS. In 2010, the program conducted **23 SRS public tours, 259 mission-related tours and 12 Congressional visits.**

In 2010, SRNS contributed **\$1 million** *in community giving.*

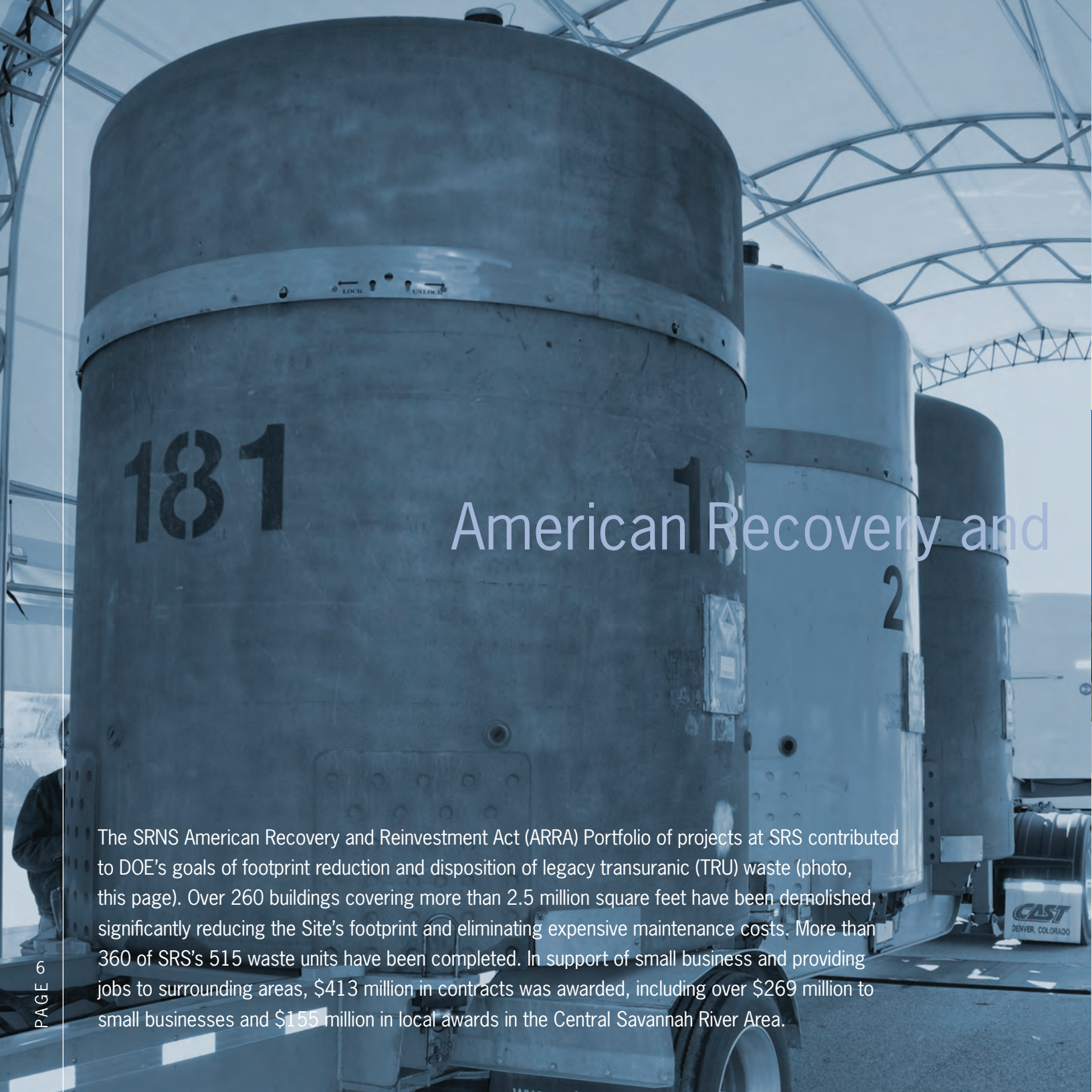
touching thousands of lives.



SRNS Education Outreach programs reached 38,454 students and 682 teachers in fiscal year 2010. **CSRA College Night**, coordinated by SRNS, is a highlight of the year. More than 7,000 attendees met with 160 colleges, universities and professional societies.



The “SRNS News” is published monthly to keep the community and our stakeholders informed about our company’s activities and community involvement.



American Recovery and

The SRNS American Recovery and Reinvestment Act (ARRA) Portfolio of projects at SRS contributed to DOE's goals of footprint reduction and disposition of legacy transuranic (TRU) waste (photo, this page). Over 260 buildings covering more than 2.5 million square feet have been demolished, significantly reducing the Site's footprint and eliminating expensive maintenance costs. More than 360 of SRS's 515 waste units have been completed. In support of small business and providing jobs to surrounding areas, \$413 million in contracts was awarded, including over \$269 million to small businesses and \$155 million in local awards in the Central Savannah River Area.

75%

*Environmental Management
footprint reduction by September 2010
(234 square miles)*



In a matter of seconds, the **K Reactor Cooling Tower** was safely demolished in May 2010. More than 800 tons of reinforced steel from the structure were sent to a local scrap metal recycler. The project was completed safely one month ahead of schedule.

*SRNS safely met more than **2,000** cleanup milestones, with **100%** regulatory compliance.*

Reinvestment Act at SRS



SRNS completed 96 TRU waste shipments (photos above and opposite) to the Waste Isolation Pilot Project in New Mexico and dispositioned 493 cubic meters of legacy **TRU waste**. SRNS also prepared 11,000 metric tons of **depleted uranium oxide** for off Site shipment, and shipped over 98,000 pounds of **recyclable lead** off Site for reprocessing.

M Area

SRNS celebrated the closure of M Area, the first at SRS to be finished with ARRA funding. Completed two years ahead of schedule, the effort included the demolition of 23 buildings and the remediation of underground pipes and sewer lines, soil areas and groundwater plumes.



P and R Areas:

Completed P Reactor Disassembly Basin water evaporation (nearly four million gallons removed); started up batch plant for P and R area projects; placed more than 83,000 cubic yards of grout and concrete in P Reactor; completed installation of 21 P Area Operable Unit remediation wells; and removed stacks and gantry cranes from P and R Reactors.





SRNL: Putting science

In 2010, Savannah River National Laboratory (SRNL) continued to put science to work to address broad national priorities. Building on the expertise that has served the nation's security, environmental and waste management needs for decades, SRNL created and deployed practical, high-value, cost effective technology solutions in the fields of national and homeland security, environmental management and energy security. SRNL proved its value, not just to DOE and SRS, but to the other federal agencies, universities and businesses that are SRNL's customers and partners.



In 2010, the FBI expanded its **Radiological Evidence Examination Facility** at SRNL, enhancing the FBI's ability to perform forensic examination on radiologically contaminated evidence.

6 years

For the sixth consecutive year, **Savannah River National Laboratory** remained the safest of DOE's multi-program national laboratories.

to work for America



Dr. Terry Michalske took the helm as SRNL Director, bringing 30 years of experience in energy science, solar energy, nanotechnology and biomolecular analysis to SRS.

SRNL's expertise in data acquisition systems is a key component in Clemson University Restoration Institute's **Large Wind Turbine Drivetrain Testing Facility**, which broke ground in 2010 to perform testing of drive-train systems for wind turbines. SRNL is also conducting studies on wind energy-related technologies for coastal and marine environments, including 2010's installation of **SODAR technology** on an offshore platform (photo, right) to study the tool for evaluating the potential of South Carolina's offshore wind resources.



SRNL's support for the DOE Office of Environmental Management included evaluating and demonstrating **vacuum salt distillation**, a technology that shows great promise for increasing the processing rate for legacy plutonium that contains chloride salts. SRNL successfully demonstrated a full-scale prototype of vacuum salt distillation equipment to be installed in the HB Line at SRS.

SRNL continues to support the nation's security with programs to test and characterize radiation detection technology, which were honored by the Domestic Nuclear Detection Office, as well as designing, building and testing a prototype radiation detector system (photo, opposite) that may be deployed to U.S. container seaports to scan cargo containers.



Supporting our nation's

Nuclear Materials Operations at SRNS provided safe and secure receipt, disposition, packaging and storage of surplus nuclear materials from SRS and across the DOE Complex and supported the nation's nonproliferation initiatives by receiving and storing used nuclear fuel from domestic and foreign research reactors.



H Canyon, L Area and the F/H Lab completed preparation activities to process used nuclear fuel (UNF). L Area also performed extensive upgrades to ship **UNF to H Canyon** including cask and railcar refurbishments, railroad upgrades and superstructure repairs.

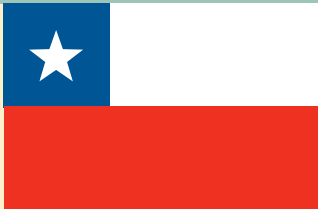
F Area Deactivation and Consolidation resulted in a cost savings of **\$5.4 million**

nonproliferation goals

595

Four domestic sites and five foreign countries shipped 594 fuel assemblies for storage in L Basin.

L Area safely received and stored the first **Chilean shipment** of non-U.S. origin used nuclear fuel conducted under the new Gap Program.



2010 marked the successful installation, testing and operational start up for a new **Californium Shuffler** at the K Area Complex, allowing for the measurement of special nuclear material in drum-sized packages. This added capability eliminates the need to unpack drums and handle the inner containers, making conditions safer for material handlers and increasing work efficiency.

SRNS completed the **successful disposition** of legacy Aberdeen and Sandia Pulse Reactor weapons-usable highly enriched uranium material by down blending to a low enriched uranium product and shipping to the Tennessee Valley Authority (TVA) for conversion to **commercial nuclear power fuel**. Nonproliferation disposition of this material was a Presidential Directive integrating the efforts of the Army and four DOE facilities.



National Nuclear Security

The National Nuclear Security Administration (NNSA) is supported by two SRNS programs: Tritium Programs and the Nuclear Nonproliferation Program (NNP). The SRNS Tritium facilities have long been recognized as the nation's center of excellence for tritium. NNP supports NNSA's ambitious "Swords to Plowshares" initiative. The Pit Disassembly and Conversion (PDC), the Waste Solidification Building (WSB) and the Mixed Oxide Program are designed to convert weapons-grade surplus plutonium to commercial reactor fuel. SRNS is responsible for the PDC and WSB facilities at SRS.



Tritium Programs executed NNSA's **tritium missions** by extracting new tritium from irradiated target rods, delivering Limited Life Component Exchange products and Gas Transfer System Surveillance data and recovering helium-3.

The Automated Reservoir Management System modernization project, a four-year NNSA project, was completed ahead of schedule and under budget during 2010.



53 years

Tritium Program's perfect record of on-time shipments was extended to more than 53 consecutive years.

Administration Programs

Nuclear Nonproliferation Programs accelerated the Pit Disassembly and Conversion Critical Decision (CD-1) submittal schedule by six months.

Nuclear Nonproliferation Programs supported the NNSA Surplus Plutonium Disposition Program with construction of the **Waste Solidification Building** (photos opposite and right), support of the **Mixed Oxide Fuel Fabrication Facility** construction and conceptual design for **Pit Disassembly and Conversion**.



Tritium Programs realigned the protective force structure, enabling NNSA Savannah River Site Office to return \$2.8 million to NNSA Headquarters in FY 2010, and saving \$4.5 million annually in subsequent years.

\$4.5 million



Improving SRS through

SRNS Engineering provides design, analysis, technical evaluations and field support for nuclear and criticality safety; design, plant, transportation and geotechnical engineering; process control systems; sitewide procedure systems; and risk management.

SRNS Infrastructure Services provides services to SRS including utilities, maintenance, facilities, shops, transportation, rigging, roads, railroads, hazardous material transportation, fleet and fuel, outfalls, landlord services and interface management.

D Area



Improvement projects at the **D Area Powerhouse** have increased electric and steam generation capability to support mission-critical Site areas. In 2010, eight scopes of work were performed, enhancing the continued operation of the D Area Powerhouse until a replacement powerhouse is completed in 2012. The improvements eliminated the cost of purchasing energy from South Carolina Electric and Gas, and significantly enhanced the reliability of the powerhouse. The photos above show the “before and after” state of the D Area hopper.

Infrastructure Services provided project support to Ameresco for the ongoing construction of the **Biomass Cogeneration** facility.



infrastructure and engineering

\$140 million

The SRNS Interface Management Organization facilitated the successful provision of \$140 million of services and programs to nine SRS federal agencies and prime contractors.

SRNS Engineering completed the design for numerous **ARRA projects** including P and R Reactor D&D, P and R Disassembly Basin evaporators (photo left) and the Solid Waste slit trench.



Infrastructure Services conducted **modernization projects** for the Steel Creek Dam, Site fuel stations, N Area outfall (photo left) and a back-up computing facility.

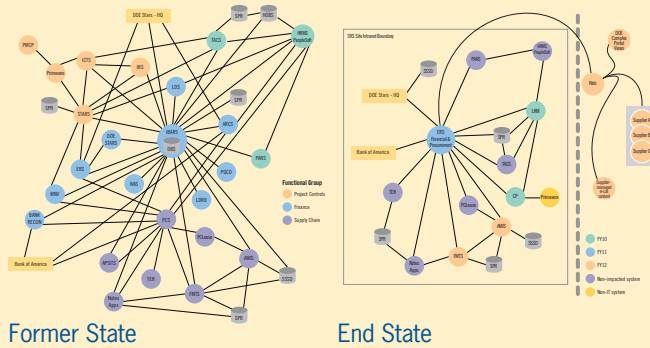




Supporting our business,

Business systems, information technology and people: they all work together to keep a company running smoothly. SRNS Business Services, Information Services and Workforce Services all took steps this year to implement improvements that streamline the day-to-day operations at SRNS. Introducing industry best practices, upgrading IT capabilities and offering enhanced employee development all serve to strengthen the company's vision of the future.

The SRNS Business Services **Business Process Modernization Project** will eliminate 30 processes and 13 applications in legacy business systems. The project introduced industry best practices and will reduce costs and improve work flow.



EVMS

In 2010, SRNS received *Earned Value Management System (EVMS) certification from DOE.*

The SRNS 401K Record Keeper recompute resulted in **\$500,000** *in annual savings.*

developing our talent



In addition to providing computer and network infrastructure, applications and cyber security, SRNS **Information Services (IS)** played a major role in enhancing SRS automation and collaboration tools. Portals, dashboards and scorecards now enhance SRNS project management capabilities. The “Next Generation Network” project upgraded 126 SRS buildings. Home computer use for remote access was enabled, the SRS Intranet was modernized and Sametime instant messaging was implemented. To assist in SRS footprint reduction, IS installed wireless capabilities in R Area (pictured at right).




During 2010, **SRNS Workforce Services** implemented new employee programs that strengthen the company’s vision of the current and future workforce. Enhanced talent development, a new recognition and rewards program and an organization for new hires—LEAP (Leaders Emerging Among Professionals)—was established.

SRNS also received the 2010 **Palmetto Workforce Partnership Award.**

IS participated in DOE’s “Green IT” Complex-wide initiative, increasing the SRS data center energy efficiency by 31 percent.

31%



Strategic leadership

In 2010, SRNS Strategic Planning worked with DOE-Savannah River to create plans for the future of SRS in response to national goals, including clean energy, homeland security, and science and technology. As part of SRNS' goals to pursue new missions and operational excellence, SRNS announced alliances with several companies to bring those plans closer to fruition.

22%

SRNL saw a 22 percent increase in funding as a result of the SRNS initiative to grow and modernize the national lab. In addition, the CD-0 Mission Infrastructure Alignment project was submitted to DOE to provide a master plan for investment in the future SRNL campus.



^3He

SRNS is leading the effort to solve the national shortage of **helium-3**, critical to the deployment of nuclear material detectors. SRNS has signed a contract to capture a major new U.S. source of helium-3 and is developing strategies to recover additional U.S. helium-3.

for our nation's future



SMR^s

Small Modular Reactors



In 2010, SRNS announced two research alliances which may lead to small modular reactors (SMRs) at SRS. **Hyperion Power Generation Inc.**, and **GE Hitachi (GEH) Nuclear Energy** will join SRNS in exploring the potential of deploying SMRs to SRS. Hyperion Power is developing a "mini" nuclear power reactor—the Hyperion Power Module (above)—which produces 70 megawatts of thermal energy. The reactor's compact size (about the size of a refrigerator), high power density and safety are among its biggest assets. The GEH agreement will focus on the possibility of deploying a prototype of GEH's Generation IV PRISM reactor (opposite), which generates electricity by recycling used nuclear fuel.

In 2010, SRNL and **Tetra Tech, Inc.**, announced an agreement to collaborate on water resources, quality and protection efforts. The agreement combines the complementary strengths of both companies to explore opportunities for future joint projects. As projects are identified, the two companies would then pursue cooperative research and development agreements or other types of contracts for executing the work.





Results for today. Vision for tomorrow.

Workforce Services
Infrastructure Services
Business Services
Information Services
Environment, Safety, Health and Quality
Engineering
Nuclear Materials Operations
American Recovery and Reinvestment Act
NNSA Programs
Savannah River National Laboratory
Strategic Planning
Community Involvement

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