

● JANUARY 2013

SAVANNAH RIVER NUCLEAR SOLUTIONS

# SRNS Today



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# Welcome

to the January 2013 edition of

# SRNS Today



**Dwayne Wilson**  
SRNS President and CEO

A handwritten signature in blue ink, appearing to read 'D. Wilson', written over a light blue background.



As the world spins into 2013, I'm looking forward to another year of success for Savannah River Nuclear Solutions and Savannah River National Laboratory. And if January is any indication, then we're well on our way.

This month, SRNL hosted a delegation from Japan's Tokyo Electric Power Company (see Page 3). Along with Pacific Northwest National Laboratory, SRNL is assisting Japan in providing recommendations for the remediation of the Fukushima Daiichi Nuclear Power Station, which was damaged by a tsunami. Our participation in this effort underscores the wealth of SRNS and SRNL experience and resources available not only to our nation, but to the world.

On the home front, the National Nuclear Security Administration has rated the Savannah River Tritium Enterprise's overall fiscal year 2012 performance as "excellent," meaning that SRNS' tritium-related work has once again successfully met and exceeded NNSA's Defense Programs goals in the missions of tritium supply, nuclear stockpile maintenance, nuclear stockpile surveillance and helium-3 recovery. Please see the story on page 4, and congratulations to all our Tritium Enterprise employees on this outstanding accomplishment!

Success in our transuranic waste program at the Savannah River Site is also in the forefront this month. As of January 7, more than 1,400 shipments—that's 16,200 cubic meters—of legacy transuranic waste have been safely and securely delivered to the Waste Isolation Pilot Plant in New Mexico since 1999. When completed, this project will have shaved nine years off the original baseline plan. Please see the story on Page 5.

I hope you enjoy the newly-redesigned "SRNS Today." As always, thank you for your interest in Savannah River Nuclear Solutions.

## About Savannah River Nuclear Solutions, LLC...

*Savannah River Nuclear Solutions, LLC, is a Fluor-led company whose members are Fluor Federal Services, Newport News Nuclear and Honeywell. Since August 2008, SRNS has been the management and operating contractor for the Savannah River Site, a Department of Energy-owned site near Aiken, South Carolina, including the Savannah River National Laboratory. The SRNS corporate and community offices are located in the renovated 1912 "Old Post Office" building in Aiken, S.C. The primary initiatives of SRNS are national security, clean energy and environmental stewardship. SRNS Today is published monthly by SRNS Corporate Communications to inform our stakeholders of the company's operational and community-related activities. If you have questions or comments, please contact us at 803.952.9584. For additional information about SRNS,*

Please visit our website at [www.savannahrivernuclearsolutions.com](http://www.savannahrivernuclearsolutions.com).





# SRNL

## Japan's Tokyo Electric and Power Company visits SRNL to learn more about environmental remediation technology

A delegation from Tokyo Electric Power Company (TEPCO) visited SRNL in January as part of an ongoing exchange about the cleanup process for TEPCO's tsunami-damaged Fukushima Daiichi Nuclear Power Station. SRNL and Pacific Northwest National Laboratory (PNNL) have a contract to provide recommendations on some of TEPCO's highest priority technical issues.

For SRNL's Dr. Jeff Griffin, Fukushima represents "almost every remediation challenge we've seen in the environmental management complex, all within three and a half square kilometers.

"This is a unique arrangement for national labs to provide this level of international assistance," added Griffin. "From our experience at our respective sites, we and PNNL have a wealth of relevant knowledge about possible options, and an important part of our mission as national laboratories is the sharing of that knowledge within the global community in what is clearly an unprecedented situation."

During the two-day visit, the TEPCO team observed both laboratory work and successful field remediation projects, and conducted discussions on a variety of technical issues including grout, water treatment and waste disposal. TEPCO was accompanied by a documentary film crew from the Japanese television network NHK, gathering material for a program to air in Japan later this spring.

The TEPCO delegation was led by Masumi Ishikawa, the company's General Manager for Radioactive Fuel Management. "For our new prime minister, he has explicitly said that Japan's revitalization will not happen without the revitalization of Fukushima Daiichi," Ishikawa said. "We need to take advantage and capitalize on the various wisdoms and insights that are possessed at Savannah River and different places around the globe to make sure that the cleanup is successful."



**Photo left:** SRNL researcher Dave Herman (far right) describes a rotary microfilter test rig to TEPCO's Kenji Tateiwa, interpreter Risa Harada and Kazuyuki Shinoda.

**Photo above:** TEPCO's Kazuyuki Shinoda, Hirohisa Kuwabara, and Masumi Ishikawa, and SRNL Associate Laboratory Director Jeff Griffin (top right) listen to a description of the SRNL shielded cells facility.

**Photo top:** TEPCO visitors Hiro Hasegawa, Masumi Ishikawa and Shuji Kaminishi observe test equipment in SRNL's Engineering Development Laboratory.



## Tritium Enterprise gets high marks for support to nation's security

**The National Nuclear Security Administration rated the Savannah River Tritium Enterprise's (SRTE) overall fiscal year 2012 performance as "excellent," meaning that SRNS' tritium-related work has once again successfully met and exceeded NNSA's Defense Programs goals.**

SRTE earned the rating for its successful performance of the four missions it carries out in support of the nation's security: tritium supply, nuclear stockpile maintenance, nuclear stockpile surveillance and helium-3 recovery.

This was accomplished while maintaining high levels of safety performance. During the fiscal year, the team reached a major safety milestone of three million work hours without a lost workday injury. The last injury resulting in time away from work was more than four years ago.

Among the highlights in FY12 was the continuation of SRTE's more than half a century of successfully delivering reservoirs and other components to military customers. This included planning and carrying out a special project to complete four months of reservoir-loading commitments in a single month, as requested by NNSA to accommodate their need for a three-month pause in shipments.

Several of the FY12 accomplishments equip SRTE to continue providing its services to the nation well into the future. One such achievement was the completion of a project to design, build and relocate a new system for separating and capturing helium-3 gas, which is used – among other purposes – in radiation detectors employed by the U.S. Department of Homeland Security.

Additionally, one of the most significant outages in the history of the facility was completed to replace piping and zeolite beds in the Purge Stripper / Zeolite Bed Recovery system. This replacement will allow the continued tritium processing to support the weapons stockpile without releases to the environment.

Also helping to prepare SRTE for the future was the progress achieved on the new Automated Reservoir Management System, a modern computer system that manages all aspects of reservoir processing through every phase of their lifecycle. Three major deliverables were accomplished over a month ahead of schedule, including implementation of the first operational function.

By participating in 41 continuous improvement projects during FY12, SRTE achieved a total of \$2.144 million in validated productivity savings. These included \$811,000 in savings by completing the consolidation of three control rooms, allowing activities in three buildings to be monitored from a single control room.



**Photo top:** SRNS President and CEO Dwayne Wilson addresses SRTE employees during a 2012 event.

**Photo left:** Helium-3 operations

# TRU

## SRS prepares to complete shipment of more than 5,000 cubic meters of nuclear waste to WIPP

With the American Recovery and Reinvestment Act (ARRA) funding, SRS continues to safely treat and dispose of radioactive waste created while producing materials for nuclear weapons throughout the Cold War. SRS is safely, steadily and cost-effectively making progress to analyze, measure and then carefully cleanup or dispose of legacy transuranic (TRU) waste remaining at SRS.

Much of this funding supported massive efforts to certify, repackage and prepare legacy TRU waste for shipment from SRS to the Waste Isolation Pilot Plant (WIPP), DOE's deep geologic repository for the permanent disposal of defense-generated TRU radioactive waste near Carlsbad, New Mexico.

The WIPP Central Characterization Program, which characterizes the defense related TRU waste shipped to WIPP through the WIPP transportation program, is active at multiple DOE sites and involves contractor companies throughout the U.S. One area where SRS has excelled is the loading and shipping of the new TRUPACT-III transport casks. The new casks and inner containers take the degree of employee and public safety, plus the enhanced speed of waste disposal, to a whole new level of achievement. SRS is currently the only facility in the world using the Nuclear Regulatory Commission approved TRUPACT-III package.

TRU waste consists of items normally found within an industrial setting that have become contaminated with radioisotopes that have a half-life greater than 20 years, such as plutonium. Tools, protective clothing, containers, rags and other debris would be typical examples.

"My congratulations to those employees who have worked together through the years to safely prepare for shipment more than 5,000

cubic meters of contaminated legacy TRU waste since the start of Recovery Act work at SRS for permanent disposal within the WIPP repository," said Dr. David Moody, DOE's Savannah River Operations Office Manager and former Manager of the DOE Carlsbad Field Office (CBFO), which has responsibility for WIPP and the National TRU Program. "As of January 7, a total of more than 1,400 shipments or 16,200 cubic meters of legacy TRU waste have been safely delivered and disposed at WIPP since WIPP became operational in 1999." Moody also noted that SRS set a record last year with their best annual performance to date – characterizing, repackaging and shipping more than 1,600 cubic meters of legacy TRU waste to WIPP.

"The TRUPACT-III is one of our transport packagings, which combined with its Standard Large Box 2 payload, helps us in our legacy TRU waste disposal initiatives," said CBFO Manager Joe Franco. "As of mid-January 2013 after 13 plus years of operations, we've had more than 11,000 shipments safely transported 13,280,000 miles by WIPP drivers and have permanently disposed of more than 85,200 cubic meters total of legacy contact-handled and remote-handled TRU waste. Diverse transport packagings like the TRUPACT-III are important to our ability to safely, compliantly and efficiently reduce the nuclear waste footprint."

The use of the TRUPACT-III significantly reduces hours of manually inspecting, cutting and working in a high exposure and potentially dangerous work environment. SRS now has six of these transports with four shipments to WIPP weekly.

Completion of this project is expected to take place late in 2013 with the last shipment of legacy TRU waste to WIPP, shaving approximately nine years off the original DOE baseline plan for the SRS ARRA project.

Trucks transporting transuranic waste in three different types of containers leave SRS for the Waste Isolation Pilot Plant in New Mexico.





# Just imagine...

Middle schoolers envision the cities of tomorrow



This year's essay topic is **"Rethink Runoff: Design Clean Solutions to Manage Stormwater Pollution."**

Student teams design virtual cities with SimCity 4 software, build physical models, write a solution to an engineering problem, write a narrative describing their city, and present their ideas before a panel of judges.

The winning team from each qualifying regional competition receives a trip to the Future City National Finals in Crystal City, Va., on Feb. 16-20, 2013.

Information on the Future City competition can be found at [www.futurecity.org](http://www.futurecity.org).

SRNS and the University of South Carolina Aiken (USCA) held the 10th annual Regional Future City Competition on Jan. 26 at USCA.

The annual Future City Competition is for middle school students who participate in the engineering design competition. Student teams plan and design virtual cities, build physical models with recycled materials, research and write a solution to an engineering problem, write a narrative describing their city, and present their ideas before a panel of judges.

Fifty-two teams from 21 middle schools located throughout the state of South Carolina and the city of Augusta, Ga., competed head-to-head during the final phase of the competition.

"These students are both incredibly creative and highly dedicated," said John Grove, SRNS Chief Engineer and Nuclear Safety Officer. "The attention to detail and level of sophistication that goes into these projects is truly amazing. Without a doubt, many important life lessons are learned during the months of hard work that is required to create a city of the future for this unique competition."

The students worked closely in teams since the start of the school year and each Future City team typically consists of three students from the same school, plus a teacher and an engineer advisor.

The Future City organization presents themes that highlight a current issue and asks participating students to investigate and come up with viable solutions. Teams start with a research essay describing their proposed city and then use SimCity™ 4 software to create an electronic version.

The Saturday event was the last phase of the competition and involved the presentation of actual models created by each team representing innovative ideas and futuristic solutions that

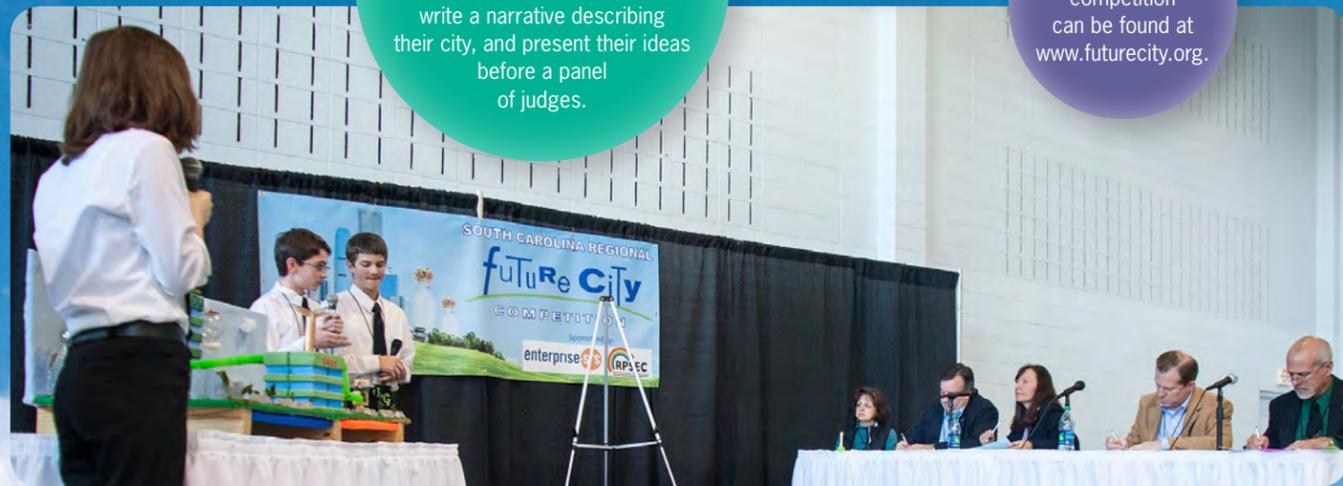
best address this year's theme, "Rethink Runoff: Design Clean Solutions to Manage Stormwater Pollution."

Members of the winning team, Aiken Area Home Educators, will represent South Carolina and the City of Augusta, Ga., by traveling to Washington, D.C., to compete against 37 other regional winners. Members for the Aiken Area Home Educators team include students John Potvin, Marjorie George, Samuel Boyd and alternate Ryan Hoyle. The teacher for the team is Vickie Boyd, with Larry Morris serving as the engineering mentor.

In addition to the overall Future City Competition, 16 professional societies and organizations associated with the Savannah River Site, provided special awards for teams demonstrating excellent projects in various categories.

The day-long, regional event was held at the USCA campus and was dependent on dozens of volunteers from the Savannah River Site and USCA to act as judges and help coordinate the event.

The Regional Future City Competition has received widespread recognition for its role towards encouraging students to develop their interest in science, technology, engineering and math (STEM). Through hands-on applications, Future City participants discover by doing how engineering is both accessible and can make a difference in the world.



**Photos (clockwise from top left):** The winning team—Aiken Area Home Educators—will move on to the national finals; one of the many entries from 52 teams; a team makes its presentation to the judges. SRNS judges included (seated at table, from left) Rob Gentry, Vice President, SRNS Site Services; Darlene Murdoch, Director, SRNS Quality and Operational Excellence; and John Grove, SRNS Chief Engineer and Nuclear Safety Officer. Also judging is Dr. Jeff Priest (seated far right), USCA Interim Executive Vice Chancellor for Academic Affairs.

52 teams,  
22 schools

- Aiken Area Home Educators, Aiken, S.C.
- Aiken Middle School, Aiken, S.C.
- Alcorn Middle School, Columbia, S.C.
- Ashley Hall, Charleston, S.C.
- Banks Trail Middle School, Fort Mill, S.C.
- Bluffton Middle School, Bluffton, S.C.

- Blythewood Middle School, Blythewood, S.C.
- Carver-Edisto Middle School, Cope, S.C.
- E. L. Wright Middle School, Columbia, S.C.
- Edgewood Middle School, Ninety Six, S.C.
- Felton Laboratory School, Orangeburg, S.C.
- Jefferson Davis Academy, Blackville, S.C.

- Johnston Edgefield Trenton Middle School, Johnston, S.C.
- Kennedy Middle School, Aiken, S.C.
- Langley Bath Clearwater Middle School, Warrenton, S.C.
- Merriwether Middle School, North Augusta, S.C.
- North Augusta Middle School, North Augusta, S.C.
- New Ellenton Middle, New Ellenton, S.C.

- Palmetto Middle School, Mullins, S.C.
- Paul Knox Middle School, North Augusta, S.C.
- St. Mary on the Hill Catholic School, Augusta, Ga.
- W.A. Perry Middle School, Columbia, S.C.



## SRNS to award \$75,000 to area teachers through Mini Grants program

Deadline for applications is March 1, 2013.

### SRNS is once again offering “mini grant” funding to over 100 Central Savannah River Area (CSRA) educators as part of the SRNS “Innovative Teaching Mini Grants Program.”

Educators from all CSRA public and private elementary and middle schools are eligible to apply for a mini grant in one of three categories: \$500, \$750 or \$1,000. An independent selection committee reviewed more than 200 grant proposals last year and selected 85 projects to collectively receive a total of \$50,000 in funding. This year, SRNS will increase this amount by an additional \$25,000 for a total of \$75,000 provided to area teachers.

SRNS is committed to supporting its education partners by sponsoring programs that facilitate the delivery of math, science and technology curricula, while increasing educational opportunities for students in the greater Aiken-Augusta area.

The SRNS Mini Grants program recognizes and supports innovative teaching methods by funding projects that enhance elementary and middle school science, mathematics and technology programs directly impacting students in the classroom.

“We are proud to reward educators who exhibit a strong passion for helping students better understand math, science and technology through innovative teaching methods,” said Gladys Moore, Program Coordinator, SRNS Mini Grants Program.

The grants are provided through corporate funding made available by the parent companies of SRNS, LLC (Fluor, Newport News Nuclear, and Honeywell).

All elementary and middle school educators in the seven-county CSRA (Aiken, Allendale, Bamberg, Barnwell, and Edgefield counties in South Carolina, and Columbia and Richmond counties in Georgia) are invited to submit an application.

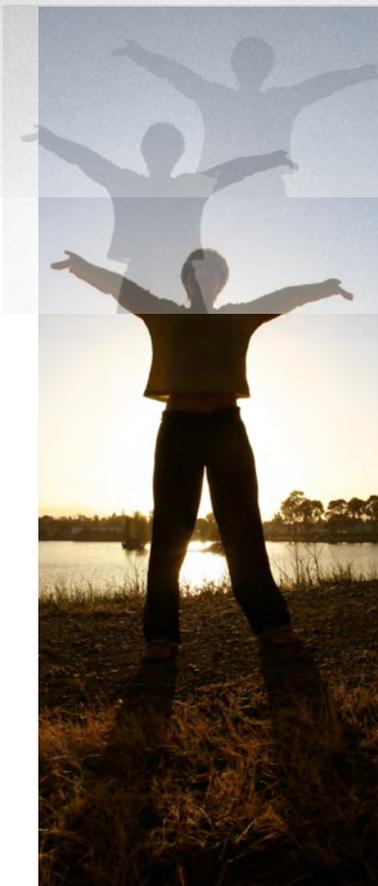
Applications for a 2013 Mini Grant are available on the Savannah River Site web site at [http://www.srs.gov/general/outreach/edoutrch/ed\\_home.htm](http://www.srs.gov/general/outreach/edoutrch/ed_home.htm). For additional information, contact Gladys Moore, 803-952-9450, or via email, [gladys.moore@srs.gov](mailto:gladys.moore@srs.gov).



## Taking steps toward Heart Walk 2013

Warren Tabor (from left), SRNS Heart Walk co-chair; Joe Legge, SRNS Heart Walk chair; Mark Farmer, Project Management and Construction Services; and Valerie Bridges, American Heart Association, discuss ways to raise donations at the 2013 SRNS Heart Walk kick-off meeting, held at the SRNL Conference Center in January. SRNS has been challenged to raise \$50,000 during this year's campaign. SRNS raised \$70,000 in donations during the 2012 campaign, exceeding its goal by \$20,000. Volunteers raise funds by sponsoring luncheons, selling Valentine's Day gifts and through other Heart Walk-related events.

## Heart Association deems SRNS a Platinum 'Fit-Friendly' worksite



**SRNS recently received the highest award provided by the American Heart Association for physical fitness in the workplace.**

"On behalf of the American Heart Association, I would like to congratulate your organization on becoming a Platinum Fit-Friendly Worksite. You are among an elite group of awardees for this important initiative," said Nancy Brown, Chief Executive Officer of the American Heart Association in a letter received by SRNS officials. "Through your ongoing efforts to provide a culture of corporate wellness, your organization has demonstrated extraordinary, tangible results."

The American Heart Association's Fit-Friendly Worksite program recognizes employers who champion the health of their employees and work to create a culture of physical activity and health in the workplace.

According to SRNS President and CEO Dwayne Wilson the SRNS management team is working to emphasize, year after year, the importance of good health habits in addition to a safe work

**American Heart Association**



environment. "We strive to ensure our employees feel safe, secure and healthy throughout each work day," said Wilson. "These quality of life standards are of great importance to us."

"We received the gold award from the American Heart Association last year as well for healthcare improvements during 2010. This year's Platinum award is a highly coveted honor across American industry," said Terry Hanna, RN, SRNS Disability Case Management.

Heart disease is the No. 1 killer in the U.S., and physical inactivity doubles the risk. Worksite wellness programs are a proven strategy to prevent the major risk factors for cardiovascular disease, according to a policy statement in *Circulation: Journal of the American Heart Association*.



## Energy Consortium's Young Leaders tour SRS

SRNS recently hosted an annual, industry-specific personal and professional development forum to train young leaders and build their knowledge, camaraderie and network. Known as the Carolinas' Nuclear Cluster (CNC) Leadership Energy Carolinas (LEC), a new LEC class is sponsored each year by the CNC, a consortium of industry, higher education and nonprofit organizations working in unison to support nuclear and economic development in the Carolinas.

"Hosting Leadership Energy Carolina provides us an opportunity to educate our nuclear neighbors on the vast capabilities and incredible knowledge SRS has to offer our region and the nation," said Fred Dohse, SRNS Executive Vice President and Chief Operations Officer.

SRS served as a stop during the class' fourth and final 2012 session. The group included participants from Aiken Technical College, AREVA, Duke Energy, Fluor, Midlands Tech, RCS Nuclear, Salem Tools, Savannah River National Laboratory (SRNL), SRNS, SCANA, Shaw, Toshiba, URS, Westinghouse, York Tech and Zachry Nuclear.

While at SRS, LEC was briefed on its history, current mission and Enterprise•SRS vision. A tour of the Mixed Oxide Fuel Fabrication Facility was followed by a tour of the Defense Waste Processing Facility. The group wrapped up the day with an explanation of SRS' role involving national security, the National Center for Radioecology, SRNL and the National Lab System, and the Defense Nuclear Facility Safety Board.

"The most impressive thing to me was how SRS is responding to constantly evolving threats with equally dynamic nuclear safeguards. Seeing everything from examples of research being done under the Next Generation Safeguards Initiative to the FBI training course left me with a great deal of confidence in our nation's nuclear security," said LEC participant Jimmy Hennen of Westinghouse.

## Analytical Labs employees assist Cumbee Center



Workers from SRNS Analytical Laboratories and F Area Operations (AL&FAO) recently donated over \$800 in gift cards and personal care items to the Cumbee Center to Assist Abused Persons (CAAP).

CAAP is a non-profit agency providing services for abused women and their families, with a mission to break the cycle of violence in their lives. Personal care items donated by the F Area Complex employees included pillows, shampoo, soap, socks, and suitcases.

"I am extremely pleased with the recent generous donation provided to the Cumbee Center made by F Area Complex employees," said SRNS Independent Assessments Manager Tom Boykin. "It is unfortunate that there is a vital need for an organization such as this in today's society, but this donation makes it possible for CAAP to continue improving the lives of those victims of violence and sexual assault."

Sheila Auvenshine and Melody Bell, both AL&FAO employees, were so inspired that they volunteered to help a family just arriving at the center.

"Once you get the personal reward of helping an organization like CAAP, there seems to be this desire to do more. I overheard staff talking about a family of seven, a mom and six children, that had just arrived and how they needed sponsors to provide personal care items for them. Sheila and I felt compelled to do more, so we stepped up," said Bell.

The generosity did not end there, however. Upon returning to F Area, Auvenshine and Bell spread the word to their co-workers about this new need and by the end of the day the family of seven had its sponsors.

"I am extremely pleased with the recent generous donation provided to the Cumbee Center made by F Area Complex employees. It is unfortunate that there is a vital need for an organization such as this in today's society, but this donation makes it possible for CAAP to continue improving the lives of those victims of violence and sexual assault."

**Tom Boykin**  
Manager, SRNS Independent Assessments



# SRNS Scenes

*A welder works at the Waste Solidification Building, currently under construction at SRS. (Photograph by Steve Ashe)*

In the world of business, our business is

# innovation.



Uniquely skilled people.

Diverse nuclear operations.

Cutting-edge research facilities.

First-of-a-kind technologies.

Innovative elements to spark  
local, regional and national  
business opportunities.

**Savannah River Nuclear Solutions.**  
**Innovation in action.**



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