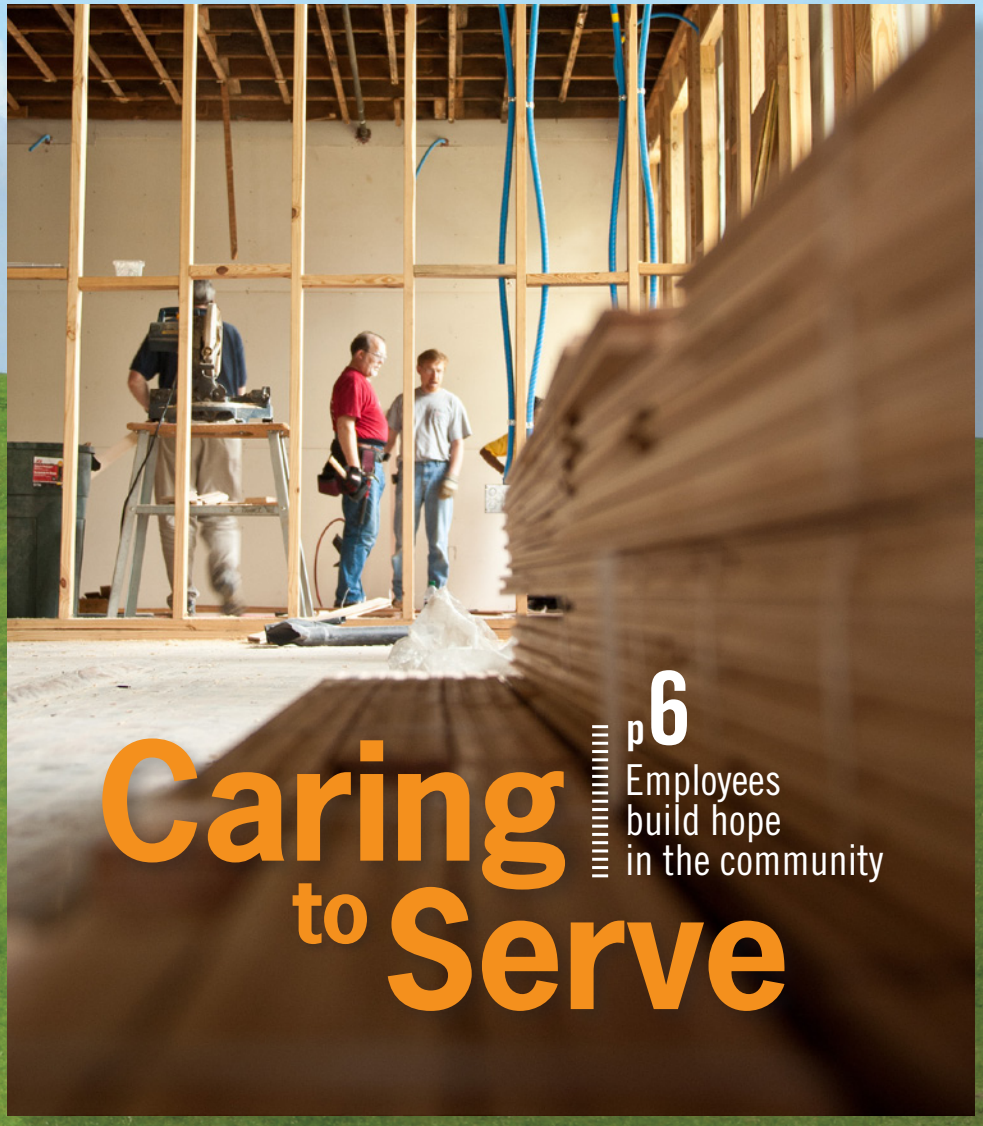
April 2012

SAVANNAH RIVER NUCLEAR SOLUTIONS

SRNS Today



Caring to Serve

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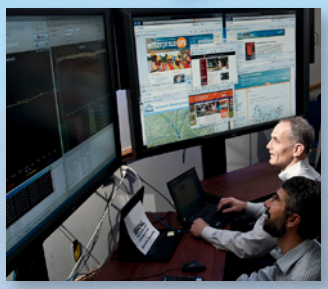
Employees build hope in the community



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Dwayne Wilson
SRNS President and CEO

Welcome to the April 2012 edition of "SRNS Today."

I'm pleased to announce that in April our Savannah River Nuclear Solutions (SRNS) Board of Directors made $1.5 million available to allow the Savannah River National Laboratory (SRNL) to access the "National Lambda Rail," one of several high-speed research computer networks. This reinvestment of our company's profits will enhance our national laboratory's ability to collaborate with universities, corporations and other national labs. It's a great new way for SRNL to support our Enterprise•SRS missions here at the Savannah River Site (SRS). Please see the story on the next page.

Also in April, SRNL and SRNS joined with the Department of Energy-Savannah River Ofice as the platinum sponsor of the second annual Small Modular Reactor Conference in Columbia, S.C. The story is on Page 4. SRS is a prime location for small modular reactor research, development and demonstration, and our participation in the conference is another step in the progress in making this clean energy technology a reality at the Site.

Making real improvements to the community was the goal in April, when dozens of SRNS employees traveled to Augusta, Ga., and Barnwell, S.C., to participate in the annual Project Serve and Project Care, part of the United Way's "Days of Caring." Volunteers worked on their day off to improve agencies and homes in these areas, and I'm always impressed with our employees' willingness to give of their time and talents. To see the photos from this day-long event, please see Pages 6 and 7.

Involving young people in technology is our way of shaping the workforce of tomorrow, and the annual "Introduce a Girl to Engineering" makes that possible. Middle-school girls worked with SRNS engineers and scientists recently to explore the world of engineering. Please turn to Page 10 for the story.

I hope you enjoy this edition of "SRNS Today." As always, thank you for your interest in Savannah River Nuclear Solutions.

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Savannah River Nuclear Solutions, LLC, is a Fluor partnership with 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 savannahrivernuclearsolutions.com.

Parent companies invest $1.5 million in SRNS, SRNL research computing

The SRNS Board of Directors has provided $1.5 million to enable SRNL access to several high-speed research and university computer networks, the most noteworthy being the "National Lambda Rail," all part of a $30 million commitment by SRNS' parent companies to reinvest profits that will benefit the Savannah River National Laboratory (SRNL) and SRNS operations at the Savannah River Site (SRS).

"The $1.5 million invested in the high capacity connection to these research networks for SRNL is just one example of the financial support SRNS and its parent companies are willing to spend to ensure we have state-of-the-art resources to support our missions at SRS," said Dwayne Wilson, SRNS President and CEO.

This $1.5 million investment will also provide for computer network connections to universities throughout the world, enabling SRNL to make use of collegiate-level research as well.

"The connection to the Lambda Rail and other research networks will enhance SRNL's ability to exchange sizable volumes of computational and research data with other organizations," said Dr. Terry Michalske, SRNS Executive Vice President and SRNL Laboratory Director. "Utilizing this highly specialized service will have a tremendous impact on our national lab's efforts to facilitate collaboration with educational institutions, industrial corporations and other Department of Energy national laboratories."

Use of these high-speed networks will also support Environmental Management and National Nuclear Security Administration missions at SRS. More specifically, the Lambda Rail at SRS will provide SRNL with access to advanced modeling and simulation capabilities used to provide solutions in areas such as chemical processes, computational chemistry, atmospheric science, geospatial systems and engineering modeling and visualization.

Photo: Team members of the SRNS and SRNL implementation team evaluate network performance of the new high-speed network connection at SRS. Seated front to back: Deno Karapatakis, Scientific Computing, SRNL; Mason Richardson, Firewall Lead, Cyber Security, SRNS. Standing left to right: Phil Moore, Manager, Scientific Computing, SRNL; Barbara Key, Manager, IT Project Manager Office, SRNS; Bill Arnold, Network Engineer, SRNS.

Honors and accolades

UW of the CSRA honors SRNS with Award of Excellence

The United Way of the CSRA (Central Savannah River Area) recently presented SRNS with its Award of Excellence for outstanding support of the 2011 fundraising campaign. The organization's website states: "Through all the changes they have experienced, Savannah River Nuclear Solutions continues to keep the community in the forefront."

SRNS AND SRNL AT THE SMR CONFERENCE

SRS, SRNS and SRNL have all the elements for success in the deployment of small modular reactors (SMR) technologies to provide clean energy for the nation.

That's the message that attendees heard at the second annual Small Modular Reactor Conference in Columbia, S.C., in April. SRNS, SRNL and DOE-SR were Platinum sponsors of the event, and took part in presentations, panels and exhibits on both SRNL and Enterprise·SRS.

SRNS President and CEO Dwayne Wilson, and SRS Executive Vice President and SRNL Director Dr. Terry Michalske participated in a panel session entitled "Savannah River SMR Deployment," which addressed opportunities for SMR deployment at SRS through public and private partnering efforts. Discussions included how SMR deployment fits into the Enterprise·SRS vision to use Site resources in technical and innovative solutions to national clean energy challenges.

Dr. Tom Sanders, SRNL's Associate Director for Clean Energy, moderated a panel discussion of representatives from the utility industry on the market applications for SMRs. SRNL representatives also acted as presenters and moderators for panels on light water reactor technologies, non-light water reactor technologies and non-traditional SMR markets.

Over 250 registrants representing both national and international interests participated in the two-day conference, which included presentations by nuclear industry experts, SMR vendors, government officials and utility representatives. In addition, the three SMR vendors currently engaged in Memoranda of Agreements (MOAs) with SRS served as panel members; these include GEN4 Energy; SMR, LLC, a subsidiary of Holtec International; and NuScale Power, LLC. These MOAs will help leverage SRS land assets, energy facilities and nuclear expertise to support potential private sector development, testing and licensing of prototype SMR technologies at SRS.

Photo, above: SRNS President and CEO Dwayne Wilson, and SRS Executive Vice President and SRNL Director Dr. Terry Michalske participate in a panel on SMR deployment at SRS.

Photo, below: SRNL's Doug Berry (left) discusses the laboratory's capabilities and technologies with an SMR vendor.

The American Heart Association's Sara Schueneman (from left) and Valerie Bridges accept SRNS's $15,000 donation from Robert Gentry, Joe Legge and Fred Dohse.

SRNS employees raise funds for American Heart Association

A little rain—OK, a lot of rain—couldn't dampen the fundraising spirit of SRNS employees.

SRNS and the American Heart Association (AHA) recently sponsored a special celebration to recognize the success of the "2012 SRNS Heart Walk Campaign." Though the actual walk was rained out on March 3, the fundraising went on. The results? SRNS raised $15,000 of the AHA's $70,000 grand total, which was $20,000 over goal.

Sara Schueneman, Vice President of the South Carolina American Heart Association, and Valerie Bridges, Director of CSRA Heart Walk Corporate Relations, received this year's SRNS check from Robert Gentry, SRNS Site Services Vice President; Joe Legge, D Area Powerhouse Deputy Director and Chair of the 2012 SRNS Heart Walk Campaign; and Fred Dohse, SRNS Executive Vice President and Chief Operating Officer.

"SRS personnel show their unselfish concern for the welfare of others. They know that giving their time and money can have significant implications for the well-being of individuals, and that of our local communities and nation," said Legge.

"SRS personnel show their unselfish concern for the welfare of others. They know that giving their time and money can have significant implications for the well-being of individuals, and that of our local communities and nation."

Joe Legge
SRNS Chair
2012 SRNS Heart Walk Campaign

Ultimate Turkey Hunt draws disabled hunters to SRS

Twenty-nine disabled hunters participated in the eighth annual SRS Ultimate Turkey Hunt coordinated through a partnership between the National Wild Turkey Federation, DOE and the USDA Forest Service-Savannah River (USFS-SR). The event was sponsored in part by SRNS. The two-day hunt harvested 28 birds by hunters from several eastern states and, for the first time, an international participant from Ontario, Canada.

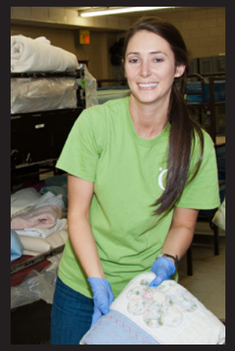
"Everyone in attendance had a wonderful time and expressed their appreciation for the opportunity to participate," said Tracy Grazia, USFS-SR wildlife biologist.

Photo: Brad Mewhinney of Ontario listens intently to his guide, Bill Harlow of SRNS, as they trek through the woods with Mewhinney's uncle, John Arnold, also from Ontario. (Photo courtesy of the National Wild Turkey Federation)

Caring to Serve

SRNS employees team up to help others by...

Dozens of SRNS employees recently volunteered to complete 21 charitable projects to improve the lives of hundreds of citizens living throughout the Central Savannah River Area and Barnwell County during this year's Project Serve (Augusta, Ga.) and Project Care (Barnwell, S.C.). Both initiatives are part of the United Way's "Days of Caring" program at SRS. Project Vision in Aiken, S.C., was held in March. Each year, a large number of SRNS employees commit to work on their day off to take on a project that will improve the living conditions of disadvantaged children, low-income senior citizens, the disabled or single parent homeowners. Frequently, a team of volunteers is assigned a project involving a United Way agency. Team projects typically include clearing debris, painting, yard work, repairing flooring, replacing roofs, putting up dry wall, building wheel chair ramps, installing smoke detectors and fixing faulty plumbing.



Jennifer Adams (above) sorts linens at the Salvation Army's Hope Center in Augusta. In the photo at right, Cary Milliner (from left), Rob Trimble and Jeff Westergreen prepare to install flooring at Heritage Academy in Augusta.

Photos from Project Care in Barnwell: (photo at left, from left) SRNS Vice President for Site Service Rob Gentry and John McHenry, Board Chair of the Barnwell United Way, at the site where the team built a wheelchair ramp for a Barnwell resident in need; (photo below) the SRNS Project Care team in Barnwell.

Photos from Project Serve in Augusta (clockwise from top): Rick Reichel saws 2 x 4s at the Heritage Academy; Ruth Douglas (left) and Kerri Crawford at the Salvation Army on North Leg; Rober Gilmore washes the door at the Salvation Army Center of Hope; and Craig Baptiste and Alana Bolton at the Kroc Center.

Excess heat exchangers travel to 'mega-trench'

A crane safely lifts a heat exchanger onto a truck trailer.

Heat exchangers were carefully transported to the E Area Burial Ground.

From 1953 to 1989, process water heat exchangers cooled the Site's five production reactors. At 33 feet long and weighing 95 tons, each stainless steel heat exchanger contained approximately 9,000 tubes in an eight and a half foot cylindrical shell. Reactor moderator was pumped through the tubes and cooling water, from either PAR Pond or the Savannah River, was pumped through the shell of the heat exchanger at a rate of 15,000 gallons a minute, cooling the reactor vessel. Each reactor vessel required 12 heat exchangers.

The high flow rates in the heat exchangers created vibration that caused failures in some of the units. When a damaged heat exchanger was removed from service, it was sent to N Area for repair and refurbishment. From 1962 to 1992, 49 heat exchangers in various states of repair were stored in N Area on the 745-N pad.

Heat exchangers on the 745-N pad

Since that time, these 49 heat exchangers have been declared excess equipment. Savings from the P and R Reactor Closure projects are being used to disposition them as part of the American Recovery and Reinvestment Act.

So far, 30 of 49 units have been shipped to E Area and placed in a large, multi-use "mega-trench" that has been created specifically for their disposition, along with other Site low-level waste, by the Site's Solid Waste Management organization.

"It has been a team effort," said Environmental Compliance and Area Completion Projects (EC and ACP) Project Manager Paul Molnar. "Rigging and Transportation forces from the Site Services Division are an integral part of the project's success as each of these 'heavy loads' is loaded and transported."

He added personnel from Radiological Protection, WSI, Site Electrical Operations, EC and ACP, SRNL and the Site Packaging and Transportation groups are also integral parts of the team.

A 275-ton crane has been leased to lift and load each heat exchanger in N Area on to a heavy lift trailer that is specifically designed to handle the heavy loads. This six-axle trailer is capable of lifting, leveling and turning these units as they are transported from N Area to E Area.

The project, which began in November 2011, is scheduled for completion by the end of FY 2012.

Annual reception honors SRS achievers in research and technology innovation

SRNS Executive Vice President and SRNL Director Dr. Terry Michalske addresses the attendees at the annual SRNL Research & Technology Recognition reception.

Some of the Savannah River Site's highest achievers in research and development were honored at SRNL's recent Research & Technology Recognition reception. SRNS President and CEO Dwayne Wilson, SRNS Executive Vice President and SRNL Director Dr. Terry Michalske, U.S. Department of Energy-Savannah River Operations Office Manager Dr. Dave Moody, National Nuclear Security Administration-Savannah River Site Manager Douglas Dearolph, and others were on hand to pay tribute to more than 40 researchers and inventors. Most honorees were from SRNL, but also included inventors from other SRS departments managed for DOE by SRNS.

"The Savannah River National Laboratory's contributions to this nation are built on innovation, and more importantly, on the ability to use that innovation to address this nation's pressing needs," said Dr. Michalske. "As we implement the Enterprise•SRS road map for supporting the nation in clean energy, environmental stewardship, and national security, this ability to apply our creativity continues to be crucial. The people we are honoring have demonstrated that ability."

Fifteen of the honorees were recognized as inventors whose technologies received patents during 2011, and nine were recognized as inventors whose technologies were licensed by commercial firms. Licenses make SRNL-invented technologies available in the marketplace by enabling private companies to manufacture and/or market a patented technology. Five researchers were honored for their participation in Cooperative Research and Development Agreements (called CRADAs) with other organizations.

Five were honored for being selected as Fellows of their respective technical societies. Criteria for the Fellow designation varies from society to society, but they typically represent a very small percentage of the most highly respected professionals in their field.

The event marked the first time that two new awards were presented: the Laboratory Director's Award for Exceptional Scientific & Engineering Achievement, and the Laboratory Director's Award for Early Career Exceptional Achievement. One researcher from each of SRNL's technical directorates was selected for each award.

The evening's honorees also included researchers who had received other major awards during 2011. These include the SRNL members of the team that received R&D Magazine's R&D 100 Award for the Porous Walled Hollow Glass Microspheres, and the winner of the Don Orth Award of Merit, the Savannah River Site's highest recognition for technical excellence and leadership.

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Parker appointed to Commissioner's post in American Meteorological Society

Matthew J. Parker

Matthew J. Parker of SRNL's Atmospheric Technologies Group (ATG) has been appointed to a two-year term as Commissioner of the American Meteorological Society's (AMS) Commission on the Weather and Climate Enterprise (CWCE).

After receiving his masters in meteorology from North Carolina State University in 1989, Parker joined SRNL, where he is responsible for the operation and development of SRNL's extensive meteorological monitoring network. He also works in collaborative atmospheric carbon research with a variety of federal, academic, private-sector,and national laboratory partners. He is a Fellow of the AMS and a Certified Consulting Meteorologist.

The CWCE's overarching goal is to engage the government, private and academic sectors from within the AMS membership and beyond on wide-ranging topics of interest to the profession. These include energy, renewable energy, water resources and resiliency to impacts from hurricanes.

Awards and accolades

SRNS a semi-finalist in national award for military support

SRNS is one of 133 companies nationwide and three in South Carolina to be named a semifinalist for the Secretary of Defense Employer Support Freedom Award, which is given annually to a total of 15 employers nationwide who show exceptional support of their Guard and Reserve employees. The semi-finalists were chosen from a pool of 3,236 nationwide.

SRNS Senior Vice President for Corporate Services Jim Hanna said that the recognition as a semifinalist is an honor for the company. "Several of (SRNS') primary missions involve national defense," Hanna said. "As a company, we value our employees and believe it is vital to support our military reservists who dedicate a significant amount of time away from their families and endure long hours of strenuous training to be ready to defend our nation with a National Guard or Armed Services Reserve Unit."

SRNL-invented technology scores a win for students

An energy technology from SRNL and a pair of students from Washington University in St. Louis have won a competition that challenged university students to develop clean-technology startups. Michael Gidding and Daniel Garcia's company Saturnis, LLC was awarded $10,000 as the Missouri state winner in the Clean Energy Trust's inaugural Student Challenge. The SRNL technology, invented by SRNL's Dr. X. Steve Xiao, provides an efficient method of producing biofuels as a source of energy. Saturnis' business plan involves applying SRNL's technology to the conversion of switchgrass to produce synthetic crude for refineries.

Middle-school girls discover the world of science, engineering at annual event

"Introduce a Girl to Engineering" took place March 24 at the Ruth Patrick Science Education Center (RPSEC) at USC-Aiken. Sponsored by SRNS, the Society of Women Engineers and the RPSEC, the annual event aims to expose middle school girls to concepts in science and engineering. In the photo above, SRNL engineer Monica Phillips (right) looks on as the girls race robotic pipe crawlers during the event. This hands-on lesson shows the girls a practical application of robots that were designed for use at SRS.

Scenes of SRNS

The new Enterprise•SRS sign goes up on the exterior of the SRS badge office. (Photograph by Steve Ashe)

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