

October 2012

Special Attachment  
Nuclear Materials:  
Are we throwing the baby out  
with the bathwater? [\(click to read\)](#)

SAVANNAH RIVER NUCLEAR SOLUTIONS

# SRNS Today

## Environmental Excellence Maintained

p4 Report underscores  
SRS commitment  
to best practices

## Savannah River Site Environmental Report for 2011

Sample Data Management • Environmental Compliance & Area Completion Projects

Savannah River Nuclear Solutions, LLC • Savannah River Site • Aiken, South Carolina

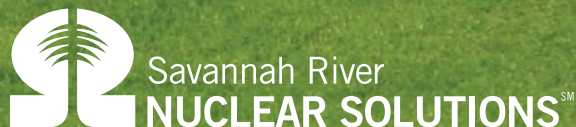


PAGE 6 ▲  
Receptions honor  
long-time SRS employees



PAGE 9 ▲  
SRNL awarded \$6.3 million  
in solar grants

PAGE 10  
Educational programs  
reach thousands locally



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## Dwayne Wilson

SRNS President and CEO



## Welcome to the October 2012 edition of "SRNS Today."

Reaching out to help others. That's what so many non-profit organizations do, and they do it amazingly well.

In October, Savannah River Nuclear Solutions was proud to donate \$10,000 toward the installation of a new roof for the Shiloh Community Center. The Center, which serves some of Augusta's most disadvantaged neighborhoods, subsists primarily from donations and grants. I'm always pleased when our company can contribute funding for something as essential as a roof, which will enable the Center to provide equally essential services to the community. Please see the story on the next page.

I'm also pleased to announce that SRNS has helped the Aiken County Chapter of the American Red Cross respond to disasters more reliably and safely. We've donated \$25,000 to purchase a new disaster relief vehicle. The Chapter serves a five-county area, and on the sad occasions when fires, tornadoes and other disasters strike, it's a good feeling to know that help is on the way. Please see the story on Page 5.

This month, we honored current and former SRS employees with 25 or more years of service. Many of these employees volunteer with various organizations and agencies throughout the area, and during their tenure at SRS, they helped support United Way activities. The "25-Year Receptions" are a much-loved tradition for these long-time employees. The event gives them a chance to catch up with friends and co-workers, and gives us a chance to say "thank you" for their dedication to the company, the Site, the nation and their communities. Please look for some familiar faces on Pages 6 and 7.

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



*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 [savannahriversolutions.com](http://savannahriversolutions.com).**



## SRNS donates \$10,000 toward new roof for Augusta's Shiloh Community Center

**SRNS recently donated \$10,000** to help ensure continued operations at the Shiloh Community Center in Augusta, Ga., by assisting with the purchase of a new roof.

Founded in 1908 as an orphanage, the Center now provides free tutoring and a summer camp for local youth, a food pantry for families in need and a source of support for seniors throughout the greater Augusta area.

"We have struggled for years to keep up with repairs to our roof," said Elizabeth Jones, Executive Director, Shiloh Community Center. The nonprofit community center serves some of the city's most economically disadvantaged neighborhoods, including public housing projects Cherry Tree Crossing and Dogwood Terrace, and is primarily supported by donations and grants.

"Thanks to our good friends at SRNS and other vital donations, we hope to soon have a new roof to protect our facility, staff and those we serve," said Jones. "We deeply appreciate their generosity and efforts to participate in our 'Raising the Roof' funding campaign."

According to SRNS President and CEO Dwayne Wilson, The Shiloh Community Center represents the type of charitable organization that SRNS employees greatly admire and are pleased to support. "The positive and immediate impact of the services offered to area residents is impressive," said Wilson.

In fact, each year, over 8,000 people use the services provided at no charge by Center personnel and volunteers. Jones noted that their services go far beyond the impoverished and extend to the working poor who do not qualify for assistance programs. "These are area families where both parents are working hard only to earn minimum wage or slightly more and are literally one step away from economic disaster," said Jones.

To further assist the aged, a wellness program was recently added featuring a series of fitness classes. Participants from 70 to 100 years of age stretch, walk, lift weights and take classes on nutrition.

"So many people are dependent on us, and we are so dependent on the donations of others," said Jones. "With financial assistance from companies like SRNS and private donors, we can keep our doors open and continue to sustain hope in the hearts of those we serve."

Photo: SRNS President and CEO Dwayne Wilson presents a \$10,000 dollar donation to Shiloh Community Center Executive Director Elizabeth Jones. Assisting are Augusta Mayor Deke Copenhaver (left) and Wayne Howard, Augusta-Richmond County Delegation Chairman (right). Looking on are Mayor's Assistant Karen Nixon (bottom left) and several SRNS employees who frequently volunteered time throughout the year.

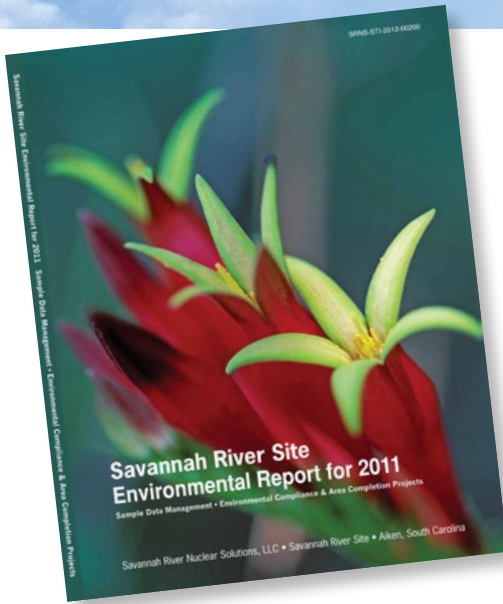


### Visitors of note



### Staffer for S.C. Governor Haley tours H Canyon facilities

Amanda Brawley, a staff member from the office of South Carolina Governor Nikki Haley, recently toured the H Canyon facilities at SRS. Pictured with Ms. Brawley (center) are (from left) Teresa Haas, Director, SRNS Government and Community Relations; Mike Lewczyk, H Canyon Facility Manager; Dr. Terry Michalske, SRNS Executive Vice President and SRNL Director; and Paul Hunt, SRNS Senior Vice President for Environmental Management Operations.



A summary of the SRS Environmental Report for 2011 and accompanying CDs of the documents are scheduled to be available in the next few weeks. To receive a hard copy of the report and CD, call or write:

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## SRS Environmental Report for 2011 confirms commitment to best practices

**The U.S. Department of Energy's Savannah River Site** maintained its record of environmental excellence during 2011—a year in which Site operations continued to result in minimal impact to the offsite public.

Data on the Site's performance are contained in the SRS Environmental Report for 2011, which has been posted on <http://www.srs.gov>.

SRS environmental reports have been produced for more than 50 years. Copies are distributed to government officials, universities, public libraries, civic groups, news media, SRS employees and various interested individuals.

"The report speaks for itself and confirms the Savannah River Site's continual commitment to environmental compliance, safety and health best practices," said David Moody, DOE's Manager for the Savannah River Operations Office. "Reflected in the report is the fact that the Site's radioactive and chemical discharges to air and water were again below regulatory standards for environmental protection and public health protection during 2011. It also shows that the Site's air and water quality met appropriate standards, and the radiation dose caused by SRS discharges was lower than natural background doses or safety-based dose standards."

A key element in each year's environmental report is a calculation of estimated radiation dose to a hypothetical "maximally exposed individual." (The "maximally exposed individual" would be someone living at the SRS boundary 365 days per year; consuming milk, meat, and vegetables produced at that location; and consuming both untreated water and large amounts of fish from the Savannah River.)

The calculated radiation dose to such an individual for 2011 is 0.21 millirem. (A millirem is a standard unit of measure for radiation exposure.) This dose is 0.21 percent of the 100-millirem-per-year DOE standard. By contrast, natural background radiation averages about 310 millirem per year to persons in the United States.

The environmental report includes historical trends in Site air and water monitoring that reflects the continuing reduction in releases as older facilities have been removed from service, and newer, more modern operations have come on line. The report also documents SRS compliance with key environmental regulations that range from air and water protection to endangered species and historic preservation.

SRS personnel conduct extensive environmental monitoring within a 2,000 square-mile network extending 25 miles from SRS, with some monitoring performed as far as 100 miles from the Site. This area includes neighboring cities, towns, and counties in South Carolina and Georgia. Thousands of samples of air, rainwater, surface water, drinking water, groundwater, food products, wildlife, soil, sediment and vegetation are collected by SRS and state authorities, and are analyzed for the presence of radioactive and nonradioactive contaminants.

The Site environmental report can be accessed electronically at <http://www.srs.gov/general/pubs/ERsum/index.html>. The report CD and web site also include data tables referenced in the document, as well as annual reports from a number of other site organizations.

## SRNS donation to Red Cross accelerates assistance to local disaster victims

**SRNS has strengthened** the American Red Cross Aiken County Chapter's ability to respond to disasters in Aiken, Allendale, Bamberg, Barnwell and Edgefield Counties through a \$25,000 donation to sponsor a new disaster relief vehicle.

The American Red Cross assists families that have been affected by disasters 24 hours a day, seven days a week. "Red Cross volunteers meet with families at all hours of the day and often during the middle of the night. SRNS' sponsorship of this new vehicle provides our staff with the ability to safely send volunteers to disaster clients at a moment's notice," said Lindsay Findley, Executive Director, Aiken County Chapter. Disaster Relief Services Partners are among the most valuable supporters of the American Red Cross, and SRNS is now in its second year of partnership with the Aiken County Chapter.

"We are all vulnerable to disasters that could suddenly impact our family, such as a fire or tornado that destroys nearly all we own," said Dwayne Wilson, SRNS President and CEO. "The service provided by the Aiken County Chapter of the American Red Cross in these situations is crucial and an invaluable asset for communities throughout the counties they serve."

Although the American Red Cross provides five lines of services, the Aiken County Chapter spends most of its time assisting families that have been affected by local disasters. Red Cross staff and volunteers concentrate on meeting disaster victims' immediate needs so they can focus on returning to their normal daily activities and on their recovery plans.

With the help of SRNS, Aiken County Chapter volunteers were able to assist Heath Brown, an active duty service member, and his family after their home caught on fire. "SRNS' Disaster Relief Services Partnership and sponsorship of the Chapter's vehicle played a significant role in not only helping the Brown family, but also in several other response efforts," Findley said. "The Red Cross relies on leadership donors in order to fulfill its mission every day. SRNS has certainly chosen and proven to be a leader in our community with this generous donation, and for that, the Red Cross and our clients are grateful."

Photo: SRNS President and CEO Dwayne Wilson (right) and SRNS Senior Vice President Alice Doswell (left) present a new disaster relief vehicle to Lindsay Findley, Executive Director, Aiken Area Chapter, American Red Cross.



### In the community

#### Golf tournament raises over \$8,000 for Toys for Tots

SRS recently held its 18th annual Toys for Tots Golf Tournament at Midland Valley Country Club. Over 30 teams were registered to play with representatives from SRNS and other Site contractors. The tournament raised over \$8,600. "This overwhelming response Site-wide to the tournament goes a long way to show the commitment of SRS employees to their community," said Julie Kirby, Toys for Tots Coordinator. "The money raised will go to purchase toys for needy children which will be added to the toy donations we receive throughout the next few months. SRS employees can be proud to know that many children will actually be able to open presents on Christmas morning, thanks to their generosity." The SRS Toys for Tots Campaign began Oct. 15 and will run through Dec. 6.



# 25years+

(but who's counting?)

## SRS honors long-time employees with annual reception

The annual SRS 25-Year Receptions, held Oct. 2-3 in Augusta, gave SRNS employees and retirees a chance to catch up with their friends and co-workers, and learn about the current work at the Site. More than 1,800 current and former employees attended the event.



SRNS President and CEO Dwayne Wilson (right) with Rick Strong and Virginia Buggs



Laura Wright and Nelson Price



Paul Saverborn and Nancy Gregory



The National Day of Remembrance flag quilt was displayed at the event.



Lisa McCullough and Willie Sanders



Wileva Dunbar and Madeline Screven





## In the community

## SRNS helps plant SEEDs of science awareness

*Students across the Central Savannah River Area were invited to "Ignite Your Mind" at the 27th Annual S.E.E.D. – Science Education Enrichment Day, held October 13, on the campus of University of South Carolina Aiken. SRNS helped sponsor the event to increase awareness of the critical role science and other STEM (science, technology, engineering and math) fields play in everyday existence. More than 3,000 students participated in science activities that included building gum drop structures, driving a championship robot, determining the health of a stream, making "dirty soil" edible parfaits, learning about radioactive decay, scientific glass-blowing and earthquakes in South Carolina. More than 60 hands-on exhibits were available. "As a SEED sponsor, SRNS recognizes that as a company we must continue to excite and engage families in science and engineering because that's where many of the future jobs will be," said Candice Dermody, Manager, SRNS Education Outreach Programs.*

## Defense Programs Awards of Excellence honors SRNS employees for NNSA support

**SRNS employees were honored** recently for their outstanding support of the National Nuclear Security Administration's (NNSA) Defense Programs. Each year, NNSA invites its sites and laboratories to submit nominations for the Defense Programs Awards of Excellence, which recognize significant achievements in quality, productivity, cost savings, safety, or creativity in support of NNSA's nuclear weapons program.

Four SRNS individuals and teams nominated by NNSA's Savannah River Site Office were selected to receive awards. In addition, two SRNS employees were members of a winning team nominated by NNSA's Albuquerque Office.

Thomas Warren received an individual Award of Excellence for outstanding support of the W88 program, which included developing and demonstrating a method of disposal for a weapon part.

The team of Jay B. Livingston, David M. Posey, John A. Beckham, Charles W. Randall, Robert A. Franklin, and Ronnie B. Moss received a team award for their ingenuity and teamwork in the development, fabrication, and installation of a "split nut" for Tritium Z-bed Recovery – a simple piece that was needed in order to return a valve to service, but which would have cost \$50K to have a vendor set up for production.

The PS-ZR Glovebox Outage Team was honored for their role in the planning and execution of an extensive overhaul of the Z-Bed Recovery system while still maintaining Purge Stripper operational capabilities. Team members are Charles R. Bell Jr., Louis W. Boone, Jared L. Clark, Kevin E. Arnold, Barbara G. Steiner, Stephen D. Glass, James W. Gibson Jr., James G. Leaptrotte, Charles F. Covington, and Richard A. Patterson.

The Reservoir Age Management Program (RAMP) Improvements Team was honored for developing and implementing important revisions to the administrative control program that governs the timely unloading of tritium filled reservoirs. Team members are Larry H. Hancock, John R. Altman, J. Colin Ferguson, Tracey L. Franklin, Cheryl L. Kania, Gerald D. Levi, Stephen J. Mazurek, T. Scott McGee, J. Joseph Shake, Kathy L. Bryan, Jan E. Johnson, and Rhonda W. Arnold, along with two representatives each from Los Alamos National Laboratory and Sandia National Laboratories.

In addition, Glenn Abramczyk and Bradley Loftin were members of the Sandia National Laboratories-led H1700 Product Realization Team, which was recognized for developing innovative approaches to cost effectively modify an existing DOE Environmental Management container into NNSA certified Handling Gear. The team also included members from Sandia, Kansas City Plant, Pantex, Los Alamos National Laboratory, and the NNSA Albuquerque Complex.



Thomas Warren (left) receives an individual Award of Excellence from Doug Dearolph, Manager, NNSA Savannah River Site Office

## SRNL Researchers Awarded \$6.3 Million in DOE Solar Grants

**Savannah River National Laboratory (SRNL) researchers** have received two separate grant awards, totaling more than \$6.3 million over a three-year period, as part of the U.S. Department of Energy's (DOE) SunShot Initiative.

SunShot, a collaborative national effort, will work to bring down the cost of solar power from photovoltaics and Concentrating Solar Power (CSP) to achieve "grid parity" with other sources. SRNL's research will focus on improving CSP systems that use mirrors to focus sunlight onto receivers that heat a fluid used to generate electricity using a turbine.

The two SRNL projects include efforts to improve both thermal storage and materials durability:

### **Fundamental Corrosion Studies in High-Temperature Molten Salt Systems for Next Generation Concentrated Solar Power Systems**

A multi-disciplinary SRNL-led team will investigate corrosion in heat transfer systems at temperatures needed to drive high efficiency power cycles. Today's state of the art heat transfer fluids are capable of operating at temperatures up to about 550° Centigrade (C). Temperatures in excess of 650° C are needed to reach efficiencies greater than 50 percent (which allow CSP plants to capture more energy). The SRNL project focuses on identifying corrosion resistant materials and corrosion prevention strategies that will allow operation at temperatures up to 1000° C.

SRNL is partnered with the United Technologies Research Center of East Hartford, Connecticut, the University of South Carolina and the University of Alabama, Tuscaloosa. Principal SRNL researchers are Dr. Brenda Garcia-Diaz and Dr. Josh Gray. Other SRNL research team members include Dr. Luke Olson and Dr. Michael Martinez-Rodriguez.

### **Low-Cost Metal Hydride Energy Storage for Concentrating Solar Power Systems**

For a CSP system, Thermal Energy Storage systems offer a range of potential advantages in long-term storage, higher energy densities and adaptability over a wide range of operating conditions. Metal Hydride systems, which have been developed and refined by SRNL for hydrogen storage, have properties that could substantially lower the size and capital cost of many CSP storage systems. A new class of metal hydrides, often referred to as complex metal hydrides, offers much higher capacities and operating temperatures; this project will screen several promising metal hydride candidate materials, ultimately leading to the design, fabrication and evaluation of a prototype metal hydride energy storage system aimed at meeting the SunShot cost and performance targets. SRNL is partnered with Curtin University of Perth, Australia. The SRNL research team is led by Dr. Ragaiy Zidan, Dr. Ted Motyka and Dr. Bruce Hardy.

"Both of these projects show how we apply our world-class materials expertise to meet new national challenges," said Dr. Terry Michalske, SRNS Executive Vice President and Director of SRNL. "With the SunShot initiative, Secretary of Energy Chu has identified an ambitious and important goal, and it's exciting to be able to work with our partners on technologies that support our nation's energy security. This is another step that puts the Enterprise SRS vision into action."



A Concentrating Solar Power (CSP) facility in Barstow, California

### **SRNL's Dr. John Swegle named CNTA Distinguished Scientist**

*Dr. John Swegle has been named as the 2012 winner of the Citizens for Nuclear Technology (CNTA) Distinguished Scientist Award.*



Dr. John Swegle

*With over 25 years of experience, Dr. Swegle has a long history of making significant contributions to U.S. National Security that has brought national-level recognition to the Savannah River National Laboratory (SRNL). He is nationally recognized and sought after across the United States Government in areas of nuclear nonproliferation and nuclear weapons deterrence.*

*Dr. Swegle has played a senior leadership role in nuclear war games conducted for the U.S. Strategic Command and was a participant in a major Department of Defense (DOD) study of future nuclear deterrence concepts. He has also advised DOD on life extension programs for some of the fielded U.S. nuclear weapons systems. Further, Dr. Swegle has produced key analysis that has been used by senior policy makers in international discussions on the Nonproliferation Treaty and the Fissile Material Cut-Off Treaty, the later being a central part of the Obama Administration's nonproliferation agenda.*

*He joined SRNL in 2007 focusing on the impact of nuclear deterrence and nuclear proliferation on U.S. arms control and nonproliferation policy and leading other classified national security efforts. He also helped build an analytical team, as well as establish a new research portfolio related to SRNL's unique hands-on expertise in the nuclear fuel cycle.*

*The award will be presented at CNTA's annual Edward Teller Lecture on Dec. 3.*





### In the community

## SRNS Education Outreach programs support thousands of local students

*With a new school year in progress, SRNS Education Outreach Programs (EOP) is ready for another year of competitions, lectures and demonstrations. Last year, the programs reached more than 17,000 students in the Central Savannah River Area (CSRA) and this year they expect to reach even more.*

*The goal of SRNS EOP is to empower area students by making education pertinent to their ambitions and talents. The programs promote science, technology, engineering and math (STEM) through hands-on experiments, demonstrations and competitions in hopes of sparking interest in related careers.*

*Some of the SRNS education initiatives include: Innovative Teaching Mini Grants, CSRA College Night, CSRA Science and Engineering Fair, Regional Future City Competition, Science Bowl, Traveling Science Demonstration Program, Introduce a Girl to Engineering, and the Science Technology Enrichment Program (STEP).*

## SRS sponsors deer hunt for Wounded Warriors

**SRNS hosted** the SRS Wounded Warriors Deer Hunt, sponsored by the U.S. Department of Energy and the Rocky Mountain Elk Foundation. The event was held Oct. 19–20.

"There's no doubt that this is one of the highlights of our hunting season," said Ed Spears, SRNS Deer Hunt Coordinator. "A lot of these participants were very active before they were injured and have a passion for the outdoors. We're honored to be able to offer them this opportunity."

Spears noted that most of the wounded warriors are patients from military medical facilities in Augusta, Ga. where they are receiving treatment and rehabilitation services.

Each of the 25 disabled hunters had a volunteer escort to assist them into position and to fulfill other hunting-related needs.

"This is so amazing," said U.S. Army Sgt. Andrew Appelberg, wounded in Kandahar, Afghanistan. "Two days away from the Eisenhower Army Medical Center in Augusta and hunting with my friends in the forest means so much to us. We really appreciate all the work that went into making this possible."

According to volunteer escort Gene Chriswell, SRNS Crane Inspections Department,



Joel Bennet (left), volunteer escort, and hunter Adam Pennington



U.S. Congressman Joe Wilson chats with SRNS Executive Vice President and Chief Operating Officer Fred Dohse (left) and Chris Croy, Regional Director, Rocky Mountain Elk Foundation (right).

it's all about giving back. "I've been volunteering to help with deer and turkey hunts at SRS for years now. It's quite an honor to serve those who have not only put their lives on the line for our country, but were also seriously wounded in the process," said Chriswell.

A banquet dinner was held on Friday and a lunch on Saturday in honor of the nation's wounded warriors.

U.S. Congressman Joe Wilson attended Friday's hunt, taking time to talk one-on-one with many of the wounded veterans, and expressing his appreciation for their sacrifice and service to our country.

SRNS manages the annual deer hunt program for the U.S. Department of Energy and provides all the necessary equipment needed to participate.





## Scenes of SRNS

Cynthia Turner of the Tritium Facilities attaches a gas sample to a mass spectrometer manifold to identify the gas and determine the leak rate of the cylinder. The small plastic balls help minimize water evaporation during the test. (Photograph by Bruce Boulineau)





National Security | Clean Energy | Environmental Stewardship

# nuclear knowledge for the nation



## Savannah River Nuclear Solutions.

We are national leaders in nuclear knowledge for the nation. We manage and operate the Savannah River Site, a 310-square-mile facility owned by the U.S. Department of Energy near Aiken, S.C.

Savannah River Nuclear Solutions operates diverse nuclear and research facilities, develops first-of-a-kind technologies, and manages infrastructure and support systems akin to those of a small city.

We're home to the Savannah River National Laboratory, an engine for growth in advanced environmental and national security technologies, as well as clean energy research.

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