

● MARCH 2013

SAVANNAH RIVER NUCLEAR SOLUTIONS

SRNS Today



**SRNS
employees
reach
15 million
safe hours!**



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Welcome

to the March 2013 edition of

SRNS Today



Dwayne Wilson
SRNS President and CEO

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What an outstanding accomplishment for the employees of Savannah River Nuclear Solutions and Savannah River National Laboratory!

Despite a host of serious distractions, our employees never wavered from their focus on safety. Their steadfast dedication to our safety culture is the reason SRNS has been honored time and again for world-class safety performance. Please see the story on the next page that details our latest safety awards. And to our employees, congratulations on your stellar achievement.

SRNS employees are equally focused on helping others. This month, they raised money and participated in the annual Heart Walk (Page 8). They painted, raked and hammered for Project Vision (Page 7). They judged and organized the annual Regional Science Fair (Page 11). They braved cold temperatures to help with the first-ever Conservation and Recycling Day in Aiken (Page 14). And their ongoing good works enabled SRNS to take home awards from both the Aiken and CSRA United Way agencies (Pages 6 and 7).

All this, and their work shines, too. The Savannah River National Laboratory, along with partners Ford Motor Company, the University of California-Berkeley and BASF, has received funding to study natural gas fuel for vehicles (Page 12). We've also signed a licensing agreement with Hadron Technologies, Inc., for a hybrid microwave and off-gas treatment system developed by SRNL scientists (Page 13).

Employees who work safely, donate their time and talent, and excel professionally—they make SRNS a truly great company.

I hope you enjoy this edition of 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.



SRNS Operations and Construction exemplary performance recognized by S.C. Manufacturers Alliance

SRNS was acknowledged by the South Carolina Manufacturers Alliance (SCMA) and presented with 2012 Exemplary Plant Safety Awards for SRNS Operations and Construction on March 7 in Spartanburg, S.C.

Annually, SCMA recognizes companies across South Carolina that successfully complete the year with a low number of incidents that result in lost work days, job transfers or restrictions.

"The most recent awards received recognize SRNS' commitment to employee and operational safety, and build upon a safety culture that was developed and has been continuously refined since the early 1950s at SRS," said Dwayne Wilson, SRNS President and CEO. "SRNS employees strive to make our work environment the safest place for our employees to be and the acknowledgement that we receive for our performance continuously validates that commitment."

Additionally, SRNS employees were recognized by the South Carolina Chamber of Commerce for their exceptional safety performance at a recent ceremony in Columbia, S.C.

SRNS Operations and Construction completed the year with a "world class" safety rating.

"SRNS employees strive to make our work environment the safest place for our employees to be and the acknowledgement that we receive for our performance continuously validates that commitment."

Dwayne Wilson
SRNS President and CEO

Photo: John Beckham, SRNS Construction, and Brenda Legions, SRNS Tritium Operations, accept SCMA 2012 Plant Safety Awards on behalf of SRNS Operations and Construction.



SRNS honored for its role in Ameresco's successful first year

Ameresco, the operator of the Biomass Cogeneration Facility at SRS, recently marked their first year at the Site, and to celebrate the occasion, they honored some key SRNS employees that made the initial year a success. Ameresco Project Manager Nicole Bulgarino (center left) presented Rob Gentry, SRNS Vice President for Site Services (center right), with an award of appreciation for SRNS's support. SRNS employees Wayne Gleaton, Utilities and Operations Services Manager, and Terri Bolton, Site Infrastructure Manager, were also recognized. Ameresco completed its first year of operation with no recordable events and 111,000 safe man hours.

“The generosity shown by SRNS employees year after year is simply amazing. Whether in good times or bad, they give with their hearts to help so many people in need. We are truly touched.”

La Verne Gold
President and CEO
United Way of the CSRA



CSRA United Way honors SRNS with top award for corporations

SRNS was recently presented the top honor for a corporation from the United Way of the CSRA, the Award of Excellence, received for contributing the largest donation during their 2012 campaign.

During the 2012 campaign, SRNS employees raised more than \$1.17 million to benefit area United Way agencies. Of that amount, \$358,000 was donated to the United Way of the CSRA. SRNS employees also leveraged a matching plan offered by the parent companies, adding another \$64,000 to the total contribution. The grand total came close to half a million dollars – \$434,000 – to the CSRA.

“The generosity shown by SRNS employees year after year is simply amazing,” said La Verne Gold, President & CEO, United Way of the CSRA. “Whether in good times or bad, they give with their hearts to help so many people in need. We are truly touched.”

“SRNS makes supporting United Way a year round focus. Annually they create their own video featuring several United Way groups, send out multiple newsletters, hold countless bake sales, cookouts, and special activities to raise money through employee contributions,” said Gold.

Gold also noted that SRNS parent companies generously made a separate corporate donation of \$200,000 to the region's various United Way organizations this past year.

According to 2012 SRNS Employee United Way Campaign Chair Tammy Rimes, SRNS employees are already planning for next year's campaign. “We just selected the chairperson for 2013,” said Rimes. “We're already off and running.”

Photo: SRNS Employee United Way Campaign Chair Tammy Rimes holds the United Way of the CSRA Award of Excellence. Also pictured are SRNS Executive Organization Leads (from left) Debra Huggins, Vivian Cato, Ms. Rimes, Maria Westbrook, Bonnie Yon and Richard Baker.



Aiken County United Way recognizes “exemplary” contributions by SRNS

The United Way of Aiken County has honored SRNS employees with the “Highest Employee Achievement Award” for contributing the largest donation during their 2012 campaign.

SRNS also won the prestigious “Stanley A. Quarles Spirit Award” during the award ceremony held in March for the corporation deserving special recognition for extraordinary fund-raising achievements during the 2012 United Way campaign. John Mickalonis, Savannah River National Laboratory, was presented the “leader of the year” award for his notable contributions.

\$644,000 of the \$1.17 million raised by SRNS employees during the 2012 SRNS Employee Campaign was distributed through United Way of Aiken County to 36 local charitable organizations. In addition to the \$644,000 donated to the United Way of Aiken County, SRNS employees and retirees also fully utilized a matching plan offered by SRNS parent companies, adding over \$100,000 to the total contribution. Combined with additional donations from SRNS corporate headquarters personnel to the employee campaign, the grand total of \$755,000 was achieved.

“We want to thank SRNS for their unequal generosity, continued support and heartfelt commitment to assist folks in our community who are less fortunate,” said Sharon Rogers, President, United Way of Aiken County. “We are truly overwhelmed and humbled by the support of your employees, which remains steadfast and certain despite economic hardship and uncertainty. We also deeply appreciate your spirit of volunteerism in assisting United Way agencies and elderly/disabled homeowners through Project Vision’s Day of Caring, fundraisers and committees. You are always there for us.”

“These are financially difficult times for many two-income families, much less single parents,” said Tammy Rimes, 2012 SRNS Employee United Way Campaign Chair. “And when tragedy strikes, be it a lost job, a serious illness, physical abuse or even a lost spouse, we can count on a wide variety of services provided by area United Way agencies. Our goal is to do our part to help them help others.”

Photo: SRNS Employee United Way Campaign Chairperson Tammy Rimes receives the “Highest Employee Achievement Award” on behalf of all SRNS employees from 2012 Aiken County United Way Campaign Chairperson Richard Harmon.

“We want to thank SRNS for their unequal generosity, continued support and heartfelt commitment to assist folks in our community who are less fortunate...You are always there for us.”

Sharon Rogers
President
United Way of Aiken County

Project Vision

SRNS employees volunteer their time and talent to improve the lives of others

On March 22, more than 200 SRNS employees volunteered to work at 11 United Way agencies to make a difference in the lives of potentially hundreds of citizens living throughout Aiken County during this year's Project VISION, part of the "Days of Caring" United Way program at SRS.

Each year, a large number of SRNS employees commit to work during 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 specific United Way agency facility, such as Helping Hands, Golden Harvest Food Bank or the Cumbee Center to Assist Abused Persons.

"This recent effort continues a long tradition of SRS employees organizing into teams one day annually to offer a full day of community service," said Fred Dohse, SRNS Executive Vice President and Chief Operations Officer. "Our employees work on a wide variety of projects. It's a full day's work, and we're proud of the values our employees hold and their seemingly endless generosity."

Team projects typically include clearing debris, applying paint, repairing flooring, performing electrical work, putting up dry wall, constructing fences, building wheel chair ramps, replacing rotting boards, fixing faulty plumbing and yard work.

Projects CARE and SERVE will take place on April 19. Project CARE will focus on Barnwell County, while Project SERVE will assist those living in Richmond County.

Photos, this page: Joe Key (left) takes down some branches while Pete Lodomirak prepares to pressure wash. Both are at Helping Hands.





Photos, this page: Painting, plumbing and carpentry are part of a volunteer's days work during Project Vison. Lending their talents are Leon Jones (clockwise from above) at Helping Hands; Joe Ormond and Pam Powell at Golden Harvest Food Bank; Joe Murphy at Mental Health America of Aiken County Nurture Home; and Angel Hecker at Golden Harvest.





Photo, top: Tamara Baldwin (from left), Cherrie Stamey and Betsy Westover (the "K Area Heartbeats") participated in the walk. Betsy's dogs Farley and Matilda walked, too.

Photo, below: Laurie Posey, along with her daughter and grandson Janna and Kaiden Ennis, made the walk a new tradition for three generations.





From the heart

SRNS employees raise \$88,000 for Heart Association

Under a sunny sky along the picturesque Greenway in North Augusta, hundreds of SRNS employees and their families joined members of the local community for another successful CSRA Heart Walk. The SRNS "Strong Hearts" walked March 9 to benefit the American Heart Association and the American Stroke Association.

SRNS kicked off its 2013 CSRA Heart Walk campaign on Jan. 9 and since then, its 42 teams have raised \$78,000, with donations still rolling in. An additional corporate donation of \$10,000 was presented by SRNS, making the company's total contribution \$88,000 and putting the company at nearly \$40,000 above its goal of \$50,000.

"The support shown by our workforce for the Heart Walk this year was nothing shy of impressive," said Rob Gentry, SRNS Vice President, Site Services and CSRA Heart Walk Executive Leadership Team Member. "This year we yet again exceeded our fund raising goal and had nearly a third more walkers than previous years. I attribute these successes to a workforce that cares about each other, a company that cares about the health and wellness of its people, and the strong leadership of the team captains and our SRNS Heart Walk Chair, Joe Legge."

Employees volunteered on everything from luncheons to cocktail-attire balls to raise money for the 2013 campaign. Most importantly, these events served to remind employees about staying heart healthy. "It is a blessing that our employees see so much value in what the American Heart Association does. Our employees have the largest, most giving hearts that anybody could ever imagine. I could not be more proud of what the volunteers have achieved with this year's campaign," said Legge.



Photo (above): Valerie Bridges and Jeremy Beauchamp (far left) of the American Heart Association accept a check for \$88,000 from (in red shirts, from left) Warren Tabor, SRNS Heart Walk co-chair; Rob Gentry, SRNS Vice President, Site Services; Joe Legge, SRNS Heart Walk chair; and Dwayne Wilson, SRNS President and CEO at the 2013 CSRA Heart Walk.

Photo (below): The SRNS Strong Hearts team



Juilliard jazzes up Allendale school in SRNS-sponsored concert

Students at Allendale-Fairfax Middle School were treated to the amazing sounds of the Juilliard Jazz Ensemble during a March performance, compliments of SRNS.

As part of the support that SRNS provides to the Juilliard in Aiken Performing Arts Festival and Outreach Program, a special performance was arranged on March 11 for the band students at the Allendale middle school. In addition to being entertained by the five jazz musicians, students learned about the history of jazz music and enjoyed a demonstration of music improvisation.

Dwayne Wilson, SRNS President and CEO, kicked off the Allendale Middle School performance and encouraged the students to find out more about the opportunities that are offered by Juilliard. Mr. Wilson also encouraged the students to consider participating in a performance camp that will be offered to area students by Juilliard this summer. This is the fifth year of the Juilliard in Aiken Festival and the second year that SRNS has made a performance available to the students in Allendale.

The performance in Allendale is a part of a week-long effort where young artists from Juilliard perform in various venues across Aiken and also participate in outreach programs that provide opportunities for area students to learn more about the arts. The mission of the Juilliard School is to "provide the highest caliber of artistic education for gifted musicians, dancers and actors from around the world, so that they may achieve their fullest potential as artists, leaders and global citizens," according to its website.

Photos: Dwayne Wilson (below, left), SRNS President and CEO, speaks to the Allendale-Fairfax Middle School band students prior to the Juilliard jazz ensemble performance.



NNSA's Col. Dawkins visits Tritium Enterprise, SRNL

Air Force Col. James C. Dawkins Jr., the National Nuclear Security Administration's (NNSA) newly-appointed Principal Assistant Deputy Administrator for Military Application, visited SRS on March 8 to get a first-hand look at the Savannah River Tritium Enterprise's (SRTE) operations and facilities. Col. Dawkins joined NNSA in January to assist Don Cook, NNSA's deputy administrator for Defense Programs, in directing the Stockpile Stewardship Program.

His day with SRTE included a tour of the Tritium facilities, visiting major facilities to see the work SRTE performs for the nation, as well as a tour of SRNL's Hydrogen Technology Research Laboratory for a look at research and development.

Briefings with both SRNS and NNSA-Savannah River Field Office personnel gave him the chance to learn more about SRTE's mission plus special activities like the transition to a new Automated Reservoir Management System and SRTE modernization.

NNSA's nuclear defense work, Col. Dawkins said, is a mission that the nation will continue to need, adding that it is a mission SRTE performs very well.



Mack Price (left) and Lee Schifer, both of SRTE, and Air Force Col. James C. Dawkins Jr., on a tour of the SRNS tritium facilities.



Science-savvy students from 18 counties compete in Regional Science Fair

With the support of the U.S. Department of Energy and SRNS, hundreds of Central Savannah River Area science-savvy students recently participated in the 2013 Savannah River Regional Science and Engineering Fair.

Over 200 students representing schools from an 18-county region located within the greater Aiken-Augusta area put their projects on display at the University of South Carolina Aiken (USCA).

The overall Best in Show winner was Rebecca Caughman, Batesburg-Leesville High School, with her project entitled, "Which Substance Is Best at Inhibiting the Growth of E. coli : Antibiotic or Organic Compounds?" Rebecca won an all-expense paid trip for her and an adult in charge to compete in the INTEL International Science and Engineering Fair in Phoenix, Ariz., in May.

"The range of project themes and variety of experimental areas are always amazing," said Candice Dermody, SRNS Manager, Education Outreach. "The students' passion for this event and use of creativity within each project continues to impress me."

SRNS coordinated this competition for the sixth year, ensuring an educational and rewarding experience for each student competitor. Other co-sponsors included USCA and the Savannah River Ecology Laboratory. Forty volunteers from the Savannah River Site, USCA and the community participated as officials and judges for this competition.

"The Savannah River Regional Science and Engineering Fair gives young people from the area the opportunity to explore the world of science and technology and develop their scientific investigation skills and knowledge by planning, constructing and exhibiting their own "hands-on" science projects," said Kim Mitchell, Science Fair Coordinator and SRNS employee.

Projects were judged for scientific reasoning, creative ability, thoroughness, technical skill and clarity.

Photo: Rebecca Caughman (center) took first place and Best in Show, while Jill Derrick (left) took second. Both girls are students at Batesburg-Leesville High School. Third place went to Brianna Eberl, Home School.



SRNL study to advance innovation for vehicles fueled by natural gas

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The Savannah River National Laboratory (SRNL) in partnership with Ford Motor Company, the University of California-Berkeley and BASF, has been awarded \$5.5 million by the Department of Energy to help develop vehicles fueled by natural gas. This research will explore an innovative low-pressure material-based natural gas fuel system for automobiles and other light vehicles.

The Advanced Research Projects Agency-Energy (ARPA-E) funded project will accelerate the use of natural gas in vehicles by reducing the pressure of on-board tanks with a proposed technology using adsorbed natural gas (ANG). The project will use high surface area materials within a heat exchange system to increase the natural gas density far beyond that which can be achieved at similar pressures.

The first focus of the project is to develop improved metal-organic frameworks to adsorb the natural gas at high densities. Building on SRNL's extensive knowledge of hydrogen storage materials and systems, researchers here are responsible for designing and testing high performance fuel systems to use these next-generation metal-organic frameworks. This innovative research has the potential to lower the cost of storage tanks and compressors at the fueling station, resulting in increased use of natural gas vehicles.

"This is a logical extension of the work we have performed in hydrogen research," said SRNL Director Dr. Terry Michalske. "ARPA-E is a very significant and highly competitive program and our ability to attract such well-regarded partners and win this award underscores the quality of science and research taking place at SRNL every day."

Today's natural gas vehicle technologies require tanks that can withstand high pressures, are often cumbersome, and are either too large or too expensive to be suitable for light duty passenger vehicles. SRNL's research and ARPA-E's new projects are focused on removing these barriers, which will help encourage the wider use of natural gas cars and trucks.

SRNL, Hadron Technologies sign license agreement for hybrid microwave system

Hadron Technologies, Inc., a microwave technology and systems development and manufacturing company with offices in Tennessee and Colorado, has signed a license for a Hybrid Microwave and Off-Gas Treatment System developed by SRNL.

The agreement gives Hadron the exclusive rights to manufacture and sell the SRNL-developed system.

The microwave system is used to support gas sample analysis as part of the SRS national defense mission. Laboratory experimentation has shown that the new form of hybrid microwave is capable of performing functions that traditional microwave systems could not achieve. The system achieves extremely high temperatures by enabling materials that usually do not react to absorb microwave energy and rapidly heat up. Metals, which normally cannot be introduced into a microwave system, can not only be treated in the system, but are actually used to help increase the temperature of the lower chamber, enabling faster degradation of waste materials.

Equipment using these technologies could be used to destroy a wide variety of substances ranging from medical wastes to harmful viruses and drugs such as methamphetamine, while still allowing for DNA analysis of the destroyed material.

"This is another good example of how laboratory innovation has changed our approach to problems," said Dr. Terry Michalske, SRNS Executive Vice President and Director of SRNL. "Public-private collaborations such as this one are important to the mission of a National Laboratory, and this one has the potential to bring a significant technology to a number of different commercial and government markets."

"Hadron Technologies is very excited about our exclusive licensing of the Hybrid Microwave and Off-Gas Treatment System developed by SRNL," said Stan Morrow, Chief Technology Officer of Hadron Technologies, Inc. "This innovative microwave technology affords solutions to a number of obstacles within the commercial and government markets. We look forward to commercially implementing this technology and providing solutions to these markets."



Jeff Griffin (from left), Associate Lab Director Environmental Stewardship; Stan Morrow, Chief Technology Officer for Hadron Technologies; and John Temple, SRNS Senior Vice President for Contracts Management sign the licensing agreement between SRNL and Hadron.

Leishear authors textbook on pipe failure and design

SRNL's Bob Leishear has authored a textbook that represents a significant contribution to the technical literature on pipe failure and pipe design.

The 442-page book, published by the American Society of Mechanical Engineers (ASME Press), is "Fluid Mechanics, Water Hammer, Dynamic Stresses and Piping Design." Publication of the book was announced in ASME's "Mechanical Engineering" magazine, which is distributed to 133,000 engineers in 158 countries.



Bob Leishear

For Leishear, it culminates 15 years of research, including multiple conference and journal publications, SRS research, and Master's and PhD research at the University of South Carolina. Dr. Leishear's theory, called the dynamic stress theory, analyzes dynamic failures due to suddenly applied loads, such as water hammer or explosions in pipe systems. The theory is the crux of the book, and the book is the technical basis for an in-process international piping standard, "ASME B31D, Piping Design for Fluid Transient Dynamic Loads." Leishear is working as project manager, writer and editor for the new consensus standard.

Sandia interns visit and tour SRS, MOX

SRTE hosted a visit by participants in Sandia National Laboratory's Weapons Intern program March 12-13. The program includes participants from Sandia National Laboratory, as well as the Air Force, Department of Defense, NNSA and its sites, and combines six months of classes and site visits with five months of individual and team projects. The visit included an SRTE tour and briefing, in addition to a driving tour of SRS and a tour of the Mixed Oxide (MOX) facility.

Recycling Day: A chance to push those old mowers aside

The weather was cold and misty, but spring—and lawn mowers—hummed in the hearts of more than 350 residents who attended Conservation and Recycling Day in Aiken.



Photo, top: Kim Cauthen and Greta Fanning, both of SRNS Environmental Compliance and Area Completion Projects, with the lawn mowers turned in during the event. The metal and other materials from the mowers will be recycled.

Photo, above: Jeannette Hyatt of Savannah River National Laboratory discusses the benefits and features of the rain barrels with Aiken resident Owen Clary.



Held March 2 at the H. Odell Weeks Center, the first-ever and widely-advertised event focused on pollution prevention and education. SRNS, the City of Aiken, the Aiken Soil and Water Conservation District (ASWCD), the S.C. Department of Health and Environmental Control—Lawn Mower Exchange Project and Aiken County were joint sponsors.

The public was offered the opportunity to trade in their environmentally-unfriendly gas-powered mowers and trimmers for electric or battery-operated replacements at a discounted price. Those who brought in a gasoline-powered mower received a \$125 credit toward the purchase of a new electric or battery-powered mower. Even without a trade-in, participants were offered \$100 off the purchase of a non-gasoline powered mower.

Additionally, pollution prevention was featured through the sale of rain barrels and composters at reduced prices. The City of Aiken also had a booth discussing recycling in the City of Aiken and offering their “blue” recycle carts to city residents.

SRNS volunteers assisted participants as they turned in 17 mowers and three trimmers – over 700 pounds of metal and other materials - for recycling through the Aiken County recycling program. New purchases included 14 mowers, 22 other electric devices, 93 rain barrels and 35 compost bins.

According to Kim Cauthen of SRNS Environmental Compliance and Area Completion Projects and a organizer of the event along with ASWCD, the purchase of new equipment will do more than clear out a smelly old mower from the garage. “Gasoline-powered lawn equipment produces many times more air pollutants than automobiles and light trucks. Electric and battery-powered mowers are cleaner, quieter and kinder to the environment,” Cauthen said.

He went on to explain that rain barrels collect storm water that would otherwise be wasted. The water can be used during dry times for watering plants and shrubs. Composters offer an alternative to sending uncooked vegetable matter, egg shells, coffee grounds and other kitchen waste, as well as non-woody yard waste, to the landfill. “Composted material make excellent fertilizer and additive to soils and plants around the home,” he said.

Lawn equipment, rain barrels and composters are still available at the event prices. For more information and ordering instruction, go to Aiken Soil and Water Conservation District website, www.aikenswcd.com.



SRNS Scenes

An operator in the SRS Tritium Extraction Facility, where tritium for national defense needs is extracted from rods irradiated by the Tennessee Valley Authority, prepares rods for extraction. (Photograph by Bruce Boulineau)

**15 million
safe hours!**

As of March 10, 2013

**Winner of two
S.C. Manufacturers
Alliance
Safety Awards
for 2012!**

In the world of business, our business is

safety and security.



Watching out for ourselves.

Watching out for our coworkers.

Focusing on safe and secure performance
from complex jobs to routine tasks.

A world-class safety and security culture
to support local, regional and national
business opportunities.

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