

June 2012

SAVANNAH RIVER NUCLEAR SOLUTIONS

# SRNS Today

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Kids take to the field for education at SRS

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donation helps the hungry



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'Steam-cleaning'  
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funds two SRNL projects



**Dwayne Wilson**  
SRNS President and CEO



## Welcome to the June 2012 edition of “SRNS Today.”

Recognizing employee accomplishments ranks high in my priorities at SRNS. I'm pleased to say that June brought many opportunities to do just that.

On the next page, you'll see that we presented the first SRNS President's Safety Award to Joe Devivo, a Tritium Extraction Facility control room operator who was recognized for his efforts that may have potentially saved a fellow employee's life. Joe's actions embody our safety commitment to “see something unsafe, say something for safety.”

Joe's achievement is just one of the recognitions you'll see in this month's edition. John McMahan's 45-year service anniversary and our Emergency Services heroes also appear on Page 3. Golden Harvest has recognized our employees for their donations of food and funding (Page 4). Through the SRS National Society of Black Engineers, SRNS presented a laptop computer to the grandson of a former Ellenton resident (Page 8). And, nominated by SRNS engineer Teri Davis, Aiken Middle School teacher Susan McCullough was recently rewarded for her 14-year participation in the area's Regional Future City Competition (Page 10).

We also had noteworthy operational milestones to recognize this month. SRNS personnel made history with a first-time achievement of three transuranic waste shipments being made on the same day using three different shipping containers (Page 5). And we recently completed a multi-year project resulting in the removal of over 33,000 gallons of non-radioactive chemical solvents from beneath M Area at SRS, using a method known as “Dynamic Underground Stripping” (Page 8).

None of these accomplishments would be possible without the creativity and the dedication of our SRNS employees. Whether in the community or on the job, they put safety and quality first, and I'm very proud of them all.

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 [savannahrivernuclearsolutions.com](http://savannahrivernuclearsolutions.com).

## Tritium employee receives first SRNS President's Safety Award

**Joe Devivo**, Tritium Extraction Facility control room operator, was awarded the prestigious SRNS President's Safety Award for his willingness to “See Something Unsafe, Say Something for Safety,” an action that potentially saved a life.

It was a sunny afternoon in April when Devivo noticed a person wading in the Tritium Programs Wetlands Retention Pond. The pond is typically only one foot deep; however, it had swelled to nearly five feet in depth due to recent heavy rains. Not only was the high water out of the ordinary, Devivo also noticed the person in the pond was submersed up to the chin. (The employee in the water was servicing traps inside the retention pond.) Devivo quickly surveyed the area and noticed that there was not a second employee at the pond to assist in the event of an emergency.

Believing that the employee was at increased risk, Devivo alerted his management to the situation, which resulted in significant changes to hazard analysis and remote worker protocol. Specific work activity requirements such as the use of floatation devices, a two-person rule and boat usage for accessing traps in deep water were also implemented.

The President's Safety Award was created by Dwayne Wilson, SRNS President and CEO, to acknowledge employees who have made significant safety contributions that support the “See Something Unsafe, Say Something for Safety” initiative.

“Safety is more than a company core value, it is the lifeblood of SRNS,” said Wilson. “I applaud our employees who are exhibiting safety leadership within their individual organizations. This award was created to recognize those individuals whose attention to detail and compassion for the well-being of their peers' results in the identification and correction of potential hazards.”



Joe Devivo, SRNS President's Safety Award winner

### Awards and accolades



### McMahan honored for 45 years of service at SRS

When John McMahan began working at SRS in 1967, the average cost of a house was \$15,000 and a car less than \$3,000.

June 12 marked McMahan's 45-year anniversary with SRS. His accomplishment was celebrated at a luncheon held that day, attended by his wife, Jo Ellen; his co-workers and long-time friends; and SRNS President and CEO Dwayne Wilson (pictured above).

McMahan began his career at SRS as a radiological engineer in the Health Physics Department after completing a co-op at NASA and graduating from Mississippi State University. He later installed high resolution gamma spectrometers and performed associated programming support.

McMahan is a past president of the Aiken Community Playhouse, and a member of the Aiken Civic Ballet Company and the Aiken County Public Library. He is the recipient of numerous public service awards.

### Saluting our heroes

SRNS was the presenting sponsor of the American Red Cross Augusta Chapter's Heroes Breakfast recognizing people in the community who have acted courageously on behalf of another. Pictured (from left) are SRNS Executive Vice President and Chief Operations Officer Fred Dohse, Brittany Thigpen, Law Enforcement Hero Award Winner Deputy Larry Thigpen and members of SRNS's Emergency Services.





## SRS donations to Golden Harvest aimed at helping the hungry in local area

“We’re pleased to support Golden Harvest in their highly effective efforts as they strive to end hunger in the Central Savannah River Area. We at SRS want to continue to do our part to provide relief to those in need.”

**Dwayne Wilson**  
SRNS President and CEO

“The poor economy has added an extra burden to our organization’s goal to feed those in need, especially the working poor who, just a few years ago, did not need our services. SRS’s contributions greatly help us and always exceed our expectations. We appreciate the generosity of our friends at SRS.”

**Mike Firmin**  
Executive Director  
Golden Harvest Food Bank



Members of the Golden Harvest Food Bank recently visited SRS to pick up donations contributed during the Site’s annual food drive campaign. SRS employee contributions amounted to \$22,000 in cash and 18,000 pounds of food. SRNS Senior Vice President Beth Bilson presents Carrie Jones, Golden Harvest Food Bank, with the SRS cash donation as (from left) Jose Rivera, WSI; Wyman Pope, URS, General Site Testing; Julie Kirby, SRS Food Drive Co-Chair; Kim Cassara, SRR; Braden Garry, SRNS; and Bill Picciano, SRNS Waste Solidification Building Project, look on.

**The Savannah River Site donated \$22,000 and 18,000 pounds of food** during its annual food drive for the Golden Harvest Food Bank.

Several SRS organizations participated in this food drive—Savannah River Nuclear Solutions, Savannah River Remediation, U.S. Forest Service-Savannah River, URS and WSI-Savannah River.

The SRS food drive is one of Golden Harvest Food Bank’s largest local fund-raisers. According to SRNS President and CEO Dwayne Wilson, the Site’s past food drives have collectively yielded over 262,475 pounds of food for Golden Harvest. “We’re pleased to support Golden Harvest in their highly effective efforts as they strive to end hunger in the Central Savannah River Area. We at SRS want to continue to do our part to provide relief to those in need,” Wilson said.

Mike Firmin, Executive Director for the Golden Harvest Food Bank was pleased to receive the checks and food. “The poor economy has added an extra burden to our organization’s goal to feed those in need, especially the working poor who, just a few years ago, did not need our services,” said Firmin. “SRS’s contributions greatly help us and always exceed our expectations. We appreciate the generosity of our friends at SRS.”

Founded in 1982, Golden Harvest Food Bank is a private, nonprofit organization whose mission is to fight hunger by feeding hungry adults and children. Serving more than 30 counties in Georgia and South Carolina, the food bank has local warehouses in Aiken and Augusta.

More than 14.2 million pounds of food passes through Golden Harvest Food Bank’s warehouses to more than 530 partner agencies, including soup kitchens, food pantries, shelters for abused women and children, and other nonprofit charities.

## Good things come in threes

### SRNS makes shipment history in transuranic waste transport

**SRNS personnel recently made history** with a first-time achievement within the Department of Energy (DOE) Complex and at SRS. On June 6, three transuranic (TRU) waste shipments were made on the same day using three different shipping containers.

TRU waste is solid waste, consisting of clothing, tools, rags, residues, debris and other items contaminated with trace amounts of plutonium.

SRS is the only DOE Site in which a combination of these three shipping containers is used. According to SRNS Solid Waste Director John Gilmour, all three containers are licensed by the Nuclear Regulatory Commission and have undergone extensive testing. The Transuranic Package Transporter Model 2 (TRUPACT II) container is designed to transport up to fourteen 55-gallon drums, two Standard Waste Boxes

(1.8 cubic meters of waste each) or one Ten-Drum Overpack unit. The shipping trailers normally carry three TRUPACT II containers at one time.

When waste is too large to fit into the TRUPACT II and size reduction is not reasonable a Standard Large Box (SLB) may be utilized. An SLB can hold approximately seven cubic meters of waste. SLBs are then transported in a TRUPACT III container. In August 2011, SRS made its first shipment using the TRUPACT III, which was also a first for the DOE complex.

The third container used at SRS to safely transport TRU waste is known as the RH-72-B. This dumbbell shaped container holds up to three 55-gallon drums of TRU waste and offers more protection from higher levels of radiation. The TRUPACT III and RH-72-B are large, each occupying an entire trailer for shipment.

“The ‘workhorse’ for us has been the TRUPACT II container,” said Bert Crapse, DOE-Savannah River Waste Disposition Programs. “The newly designed TRUPACT-III container has recently been used frequently and exclusively at SRS, whereas, only 40 shipments have occurred since 2001 from SRS facilities using the RH-72-B container.”

After the trailers are loaded, the trucks travel to DOE’s Waste Isolation Pilot Project (WIPP) in Carlsbad, N.M. To date, SRS has safely made over 1,360 shipments of TRU waste to WIPP for disposal.



For the first time in the history of the DOE Complex, SRNS personnel made three TRU waste shipments on the same day, using three different shipping containers. The three trucks transporting TRU waste (from left) used TRUPACT-III, RH-72-B and TRUPACT-II containers.



# STEP it up!

Students visit  
SRS for science  
education

School's out for most students, but thanks to a summer camp offered by USC Salkehatchie and an Education Outreach Program offered at SRS, students from Allendale-Fairfax Middle School are still immersed in learning.

Braving some hot weather, students arrived at SRS to begin a day of environmental studies. A surprise visit from SRNS President and CEO Dwayne Wilson added a mixture of excitement and encouragement to student's investigations.

Taking advantage of an on-site pond, students practiced a "capture and release" study of both aquatic and terrestrial life. Based on the biodiversity, the challenge was to determine the health of the pond and surrounding area.

The Science and Technology Enrichment Program (STEP) is a cooperative initiative between DOE-SR, SRNS, the University of South Carolina-Aiken Ruth Patrick Science Education Center, the National Audubon Society and the U.S. Forest Service-Savannah River to support science education outreach at SRS.



SRNS President and CEO Dwayne Wilson (right) enjoys a moment with Allendale-Fairfax Middle School students and Jamison Drain, a camp instructor.



Photos (from left): Kaneshia Whosenadove and Randa Godley look for organisms in a water sample; student Brooklyn Capers and SRNS STEP Coordinator Kim Mitchell look for aquatic organisms; Amber Ferguson and Jalen Minters look for insects; (large photo) the students and accompanying adults gather on the banks of the Old Firepond Dam at SRS.







## “Steam-cleaning” effort complete in M Area

SRNS recently completed a multi-year project resulting in the removal of over 33,000 gallons of non-radioactive chemical solvents from beneath M Area at SRS, preventing these pollutants from entering the local water table.

This innovative and creative method used to remove sub-surface solvents is known as “Dynamic Underground Stripping” or DUS.

When nuclear production reactors were operating at SRS, fuel and target rods were produced within several M Area facilities. Degreasers, in the form of liquid solvents, were used as a part of the production process.

The DUS cleanup system is simple in concept: Drill strategically placed vertical, horizontal and angled penetrations through 10 million cubic feet of soil and inject millions of pounds of steam.

This process increases the temperature of the solvents to the point where they vaporize. The solvent vapors (and some associated contaminated liquids) are then “vacuumed” out of the contaminated area through the use of 33 extraction wells and treated at the surface.

According to SRNS President and CEO Dwayne Wilson, “Successfully completing our operations-related missions at SRS while responsibly guarding the health of our employees, area residents and the environment is a challenge we’ve fully accepted and an area where we continue to succeed. We take this important responsibility very seriously.”

## SRNS contribution ties former Ellenton resident, son and grandson to SRS

**Alstyn Martin, 71, clearly remembers the day** her family was notified that they would need to make way for the new “bomb plant,” which was to become the Savannah River Site. Ironically, she now has a new memory associated with the same DOE site—her grandson recently received a scholarship in the form of a new laptop computer from SRNS.

Marquis Martin, Alstyn Martin’s grandson, and Aliyah Gaines each received a laptop computer funded by SRNS through the SRS National Society of Black Engineers (NSBE) 20th Annual Award Celebration. In addition to Martin and Gaines, six other worthy applicants received a laptop computer from other corporate sponsors at this event.

According to SRNS Project Manager and NSBE member, Marie Coleman, multiple college scholarships have been presented at their society’s award celebrations for over 15 years.

“Our professional society uses this funding to fill the gap in schools consisting of those students who are not at the top of their graduating class, and yet, are highly qualified and enthusiastic students in need of some financial assistance to succeed in college,” said Coleman.

Martin’s grandmother was present at the award ceremony and finds this interesting twist of events amazing. “I was eight years old and living near Ellenton when we were asked to move, but it all worked out well,” said Martin. “Today, I am so thankful to SRNS for their nice gift. In fact, my son, many years ago, received a scholarship from the folks running SRS, and he now has a doctorate in chemical engineering from UCLA.”

Applications are distributed each year throughout the Central Savannah River Area resulting in numerous applicants who are selected primarily through the quality of a submitted essay, academic achievement and community service.

“This is another example of the priority we at Savannah River Nuclear Solutions place on the value of a good education,” said Fred Dohse, SRNS Executive Vice President and Chief Operating Officer. “We recognize and deeply appreciate the contributions made by our Site’s various professional societies towards the benefit of area communities and charitable organizations.”

Martin is a graduate of North Augusta High School and is currently attending the University of Alabama at Huntsville where he is studying aerospace engineering.

Photo: SRNS Executive Vice President and Chief Operating Officer Fred Dohse (left) stands with SRNS scholarship winners Aliyah Gaines and Marquis Martin. Admiral Bruce Grooms was the featured speaker at the event.



**Barrow tours SRS** U.S. Congressman John Barrow (at left in both photos) recently toured the Savannah River Site and SRNL. Some of the highlighted stops on the tour included the FBI Forensics Laboratory at SRNL (below) and H Canyon.



## Two SRNL-supported projects selected for funding by DOE university program

**Two nuclear energy research and development (R&D)** projects supported by SRNL have been selected for funding by DOE’s Nuclear Energy University Programs (NEUP). The DOE Office of Nuclear Energy created NEUP in 2009 to support outstanding, cutting-edge and innovative research at U.S. universities.

Every year since the program’s inception, at least one SRNL collaboration has been selected for funding, and every year, at least one of those has been in partnership with the University of South Carolina (USC). “Working with universities has always been important to the way SRNL operates, so we can add our background and expertise to the exciting work taking place there,” says Dr. John Marra, SRNL’s Associate Laboratory Director for Science & Technology. “It’s even more gratifying when we have the opportunity to partner with the universities in our local area to help strengthen nuclear research and development in our own region.”

In one of this year’s funded projects, SRNL’s Adrian Mendez-Torres is collaborating with USC on the development of a new detection method for fast neutrons. This is the second year in a row that NEUP has awarded funding to an advanced sensor collaboration between USC and SRNL. In the other project selected for 2012 funding, SRNL’s Kevin Fox and Kyle Brinkman are working with Alfred University (Alfred, N.Y.) to advance understanding of ceramic waste forms, leading to new formulas and processing methods to improve waste form performance.



### SRNL’s Kevin Fox wins PACE award

Dr. Kevin M. Fox of Savannah River National Laboratory has been selected to receive the Karl Schwartzwalder - Professional Achievement in Ceramic Engineering (PACE) Award, presented by the American Ceramic Society’s National Institute of Ceramic Engineers (ACerS). The award recognizes Dr. Kevin Fox



the nation’s outstanding young ceramic engineer whose achievements have been significant to the profession and to the general welfare of the American people. Fox’s current research focus is on the development of innovative compositions for the immobilization of high level nuclear wastes in glass, as well as ceramic waste forms for the safe disposition of by-products from commercial nuclear fuel recycling. Fox is the current Chair of the ACerS Nuclear and Environmental Technology Division and President of the Ceramic Education Council. Fox has authored 14 peer-reviewed publications, co-edited 3 volumes, and given more than 30 technical society presentations. In addition to receiving his Ph.D. in Materials Science and Engineering from Pennsylvania State University, he studied at Nihon University in Japan as the recipient of a National Science Foundation fellowship.



## SRNS nomination results in national recognition for local science teacher



Aiken Middle school teacher Susan McCullough (back left) recently attended a national award ceremony and was recognized for 23 years of work towards innovatively encouraging her students to consider careers in science, technology, engineering and math. She is shown with her 2012 Future City Regional Competition Team consisting of SRNS volunteer engineer Teri Davis and students (from left) Logan Coggin, Toby Fulmer and Erik Fallon.

Aiken Middle School teacher Susan McCullough was recently rewarded for her dedication to students and for participating in the area's Regional Future City Competition for 14 years. In a field of over 180 applicants, she was selected as one of eight runners-up for the inaugural DiscoverE Educator National Awards. In recognition of this distinction, she received a \$500 cash award, a digital camera and gift pack.

The South Carolina (and Augusta, Ga.) Regional Future City Competition, sponsored and managed by Savannah River Nuclear Solutions, LLC (SRNS) in partnership with the Ruth Patrick Science Education Center, creates numerous benefits each year for area middle school students by assisting teachers and volunteer engineers who support each Future City Team.

*"I nominated Susan as a way to say thank you for leading her students to new perspectives on science and engineering. She makes it exciting, interesting and full of amazing potential for so many of her middle school students."*

**Teri Davis**  
SRNS engineer

A middle school science teacher for the last 23 years, McCullough has heard the constant refrain from her incoming students that "engineers are nerds...they are boring...I don't want to be like that." Yet within the span of a few months each school year, she is able to change those perspectives. Engaging her students in the Future City program has resulted in several former students who have earned engineering degrees and one who is even a Disney "Imagineer."

According to McCullough, the Future City Competition was actually piloted in Aiken County at Aiken Middle School 15 years ago. "I was approached about its inception, and we have participated in the competition every year, except one," said McCullough. "I cannot believe the sheer number of former students who remind me how much they enjoyed the work for the competition and how much they gained from it. This competition has such a tremendous impact on anyone who is involved in it."

DiscoverE Educator Awards recognize STEM (science, technology, engineering and math) educators, the 'unsung heroes' behind many exceptional engineers, for their outstanding achievements in helping students discover the world of engineering. Many of these educators dedicate much of their lives to nurturing the nation's future STEM talent pool—a crucial part of America's future economic growth.

"I am also excited and proud of Susan's engineer mentor, Teri Davis," said SRNS Education Outreach employee and South Carolina Regional Future City Coordinator, Kim Mitchell. "Our Site engineers and scientists are an invaluable resource here and frequently support our local school systems by offering their time and expertise in the classroom."

SRNS engineer Teri Davis has assisted McCullough during the past three years of Future City Competition. "I nominated Susan as a way to say thank you for leading her students to new perspectives on science and engineering," said Davis. "She makes it exciting, interesting and full of amazing potential for so many of her middle school students. This award validates what a unique and very special teacher she is to her students."

The Future City Competition is a national, project-based learning experience where students in grades six through eight imagine, design, and build cities of the future. Regional winners from throughout the U.S. represent their region at the National Finals in Washington, D.C., in February.



**Scenes  
of SRNS**

*Framed by some of the thousands of supplies used at SRS each day, Carlos Jamison operates a Hyster V30 Man Up lift in the Site's Stores warehouse. (Photograph by Bruce Boulineau)*



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