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SAVANNAH RIVER NUCLEAR SOLUTIONS



SRNS Today

25 million reasons to celebrate

SRNS gathers to mark record-setting safety achievement



This month

Surplus materials to Oak Ridge • Passive cleanup technologies • IDEAS awards



Stuart MacVean
SRNS President and CEO

On the cover

SRNS employees show off their new car sun shades, a gift presented during the 25 million safe hours festivities in October.

Welcome

to the October 2019 edition of

SRNS Today

Safety brings its own rewards. Arriving at work safely, performing work safely and returning home safely benefits everyone.

However, a big celebration never hurts.

To commemorate our recent 25 million safe hour company record, our SRNS team gathered over three days in October to enjoy food, music and fellowship, and to renew their commitment to our safety legacy. This record-setting achievement is remarkable and I'm proud of each individual who contributed to this success.

We're also celebrating our IDEAS program, which swept the awards at the recent Ideas America Global Conference, held in Fort Lauderdale, Fla. In this international competition, our employees took home three gold, four silver, six bronze and other awards for their innovative ideas and support of the company program. Congratulations to all the winners!

Operationally, 81 SRNS employees received awards from the National Nuclear Security Administration for their significant contributions to the program responsible for ensuring the safety, security and effectiveness of the U.S. nuclear deterrent. The employees were members of five teams that received Defense Programs Awards of Excellence, and we salute their efforts on behalf of our national security.

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



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 employees and other stakeholders of the company's operational- and community-related activities. If you have questions or comments, please contact us at 803.952.6131 or visit our website.

www.savannahrivernuclearsolutions.com

In October, the SRNS team gathered to mark their recent achievement of 25 million safe work hours in 2019. Over the course of three days, SRNS employees were treated to a barbecue lunch, music and a gift from the company to commemorate this new safety performance record. "The work that SRNS organizations complete each day is of national importance. Their work environments are diverse, and hazards are a constant factor; that is what makes this achievement monumental," said Stuart MacVean. "Surpassing 25 million safe work hours without a lost time injury requires the dedication and focus of each individual and speaks to our culture and values."

25 million reasons to celebrate

SRNS gathers to mark record-setting safety achievement



Above: Barbecue, fried chicken, sides, desserts and smiles were served up all around as thousands of SRNS team members gathered in B Area for the celebration.

Below: Stuart MacVean addresses the crowds on the first day of the event.



LDRD advancing science

SRNL completes annual R&D proving ground

SRNL concluded its fiscal year 2019 Laboratory Directed Research and Development Program, or LDRD, by hosting a Year-End Review and Poster Session on Oct. 8 at the Applied Research Center in Aiken.

The session featured annual highlights, and researchers presented posters detailing each of the 29 funded projects. Project topics ranged from processing image analysis using big data, machine learning and computer vision to researching large area airborne contamination monitoring.

SRNL's LDRD program helps develop scientific capabilities that will enhance the laboratory's ability to address future DOE and NNSA missions. It is a vehicle to foster creativity and stimulate the exploration of science and technology while providing a proving ground for new concepts in research and development.

"We are now at a new transformational point for the lab," Ralph James, Associate Laboratory Director for Science and Technology, told the audience. "One where our thirst for discovery will grow and hopefully we will experience cutting-edge breakthroughs of revolutionary impact that will expand the frontiers of science and technology while preserving our historically significant applied contributions."

LDRD is the principal source of discretionary research funding available to the Laboratory Director to use to strengthen the lab's core competencies and position it for the future. FY19 projects received a total of \$7.5 million in funding, said Jose Cortes-Concepcion, LDRD Program Manager. Nearly half of the projects focus on national security. Other major focus areas are environmental stewardship, nuclear materials management and secure energy manufacturing.

Of note was a previously-funded project led by Dr. Simona Murph researching "Magnetically induced heat generation for controlled hydrogen isotope release from hydrides."

It was named the program's MVP Award this year and has received funding from NNSA since FY 2015. The project looks at new



Dr. Simona Murph, LDRD MVP award winner, working at SRNL. Her work has received funding from NNSA since FY 2015.



"We are now at a new transformational point for the lab. Hopefully we will experience cutting-edge breakthroughs of revolutionary impact that will expand the frontiers of science and technology while preserving our historically significant applied contributions."

Ralph James



technologies for heating nanoparticles that are rich in hydrogen. The process is faster than current conventional heating strategies, localizes the heating on nanoparticles embedded in a solid matrix and can reduce the demand for heat energy on the environment.

With a very small footprint, the technology provides a safer method of precisely handling hydrogen and its isotopes stored in hydride materials. This was the first study showing the controlled hydrogen gas release and selective hydrogen isotope release through application of an alternating magnetic field.

The research has far-reaching potential applications such as treating environmental waste and destroying contaminants by raising the temperature remotely. There are many potential bio/medical applications such as unclogging arteries and new approaches to delivering drugs.

Her team's work has appeared in nine peer-reviewed publications, generated four invention disclosures and received 12 different awards and recognitions. Additionally, the team submitted two patent applications, and one patent has been issued.

The FY20 projects were also announced during the presentation. There were 18 new projects funded, and 12 projects received continuing funds.

Surplus materials from SRS on their way to support NNSA missions in Oak Ridge

Since August, excess construction materials from SRS have been finding new life supporting vital NNSA missions. Some will be used for NNSA missions at SRS, while others are travelling to NNSA sites across the country.

This repurposing is part of a strategy for obtaining the greatest benefit from materials no longer needed for the Mixed Oxide Fuel Fabrication (MOX) Facility. Work on that facility was halted when NNSA identified a better approach for carrying out its plutonium disposition mission.

As part of the MOX facility construction termination activities, NNSA and SRNS are working to use all excess equipment and materials from the MOX project across the NNSA enterprise. Together, they have a rigorous review process to determine potential uses for equipment in order to get the best value out of what has been purchased.

The first to leave the site was two truckloads shipped to Oak Ridge, Tenn. These materials will support construction of the Uranium Processing Facility (UPF), designed to ensure the long-term viability, safety and security of enriched uranium capabilities in the United States.

The initial crates of bolts and fasteners were joined by welding systems, plasma cutters and a variety of other items large and small. All are owned by NNSA but are not needed for its missions at SRS.



Materials are loaded for transport from SRS to Oak Ridge.

NNSA's UPF construction project at the Y-12 Plant in Oak Ridge, on the other hand, identified an immediate need for these items.

SRNS is dispositioning the equipment, tools and other materials, under NNSA's disposition plan, which gives top priority to the agency's projects at SRS and elsewhere. For material and equipment not needed for NNSA missions, there will be opportunities to support local schools and community reuse organizations with excess property.

"Our role is to carry out that plan, which means we get to play an active role in maximizing reuse opportunities in support of active and future NNSA and DOE missions," said Mike Basham, SRNS Director of MOX Termination Project.

Employees recognized for support to U.S. nuclear deterrent

Eighty-one SRNS employees received awards from NNSA for their significant contributions to the program responsible for ensuring the safety, security and effectiveness of the U.S. nuclear deterrent.

The employees were members of five teams that received Defense Programs Awards of Excellence, established to recognize individuals or teams who made significant achievements in support of the Stockpile Stewardship Program or other important national security objectives. This award is for achievements that contribute to quality, productivity, cost savings, safety, creativity and enhanced surety of the nation's nuclear deterrent. Brigadier General Ty Neuman, NNSA's Principal Assistant Deputy Administrator for Military Application, who presented the awards, noted that much of the work for which these teams were being recognized involved "talented individuals who used innovation to make existing capabilities even better."

One of the teams was recognized for improvements to the system that unloads tritium reservoirs returned from the stockpile so the gas can be purified, recycled and reloaded into new reservoirs. The other teams were recognized for their work in support of the programs that make up NNSA's warhead modernization activities. These activities ensure that the U.S. nuclear weapons stockpile continues to meet Department of Defense requirements while enhancing safety and security without providing new military capabilities or the need for explosive nuclear testing.

One group of honorees consisted of the SRS members of a multi-site team recognized for Exceptional Achievement—a special category reserved for those accomplishments that are "home run" examples of using stockpile stewardship capabilities to promote and further advance important national security objectives.



Brigadier General Ty Neuman (seated left), along with Stuart MacVean and NNSA-Savannah River Field Office Manager Nicole Nelson-Jean (standing left) recognized 81 SRNS employees for receiving NNSA's Defense Programs Awards of Excellence.



Members of the H Canyon LSIT gave SRS Safety Expo attendees an opportunity to operate miniature cranes to handle mock waste containers.

Exploring safety at Expo '19

SRNS hosted the annual SRS Safety Expo on Oct. 15-16, featuring 70 informational booths designed to educate and engage SRS employees in the site's safety culture and performance. This year's event brought more than 3,000 attendees from all SRS contractors to the Applied Research Center in Aiken, S.C., for two days of safety engagement in a fun, interactive environment. Booths were hosted by various SRS organizations, including 22 Local Safety Improvement Teams, along with organizations from neighboring communities in South Carolina and Georgia. The event covered an extensive variety of safety topics meant to increase employee awareness, ranging from cyber security and fire safety to driver and car seat safety.



Photo, left: Amy Meyer, SRNS Environmental Compliance Manager, discusses ladder safety with an SRS Safety Expo attendee. Photo, right: Attendees stroll through a wealth of informational booths at the Expo.



SRNS employees at the 2019 Ideas America Global Awards. From left: Kenny Franklin, Blake Leaphart, Laura Barsh, Paula Croom, David Dixon, Brenda Kelly, Joe Legge, Deanna Goodlove and Max Cavett.

SRNS IDEAS program participants sweep Ideas America Global Conference awards

SRNS employees recently swept the competition in the annual Ideas America Global Conference, held in Fort Lauderdale, Fla., going head-to-head with various companies from across the United States and in the United Arab Emirates.

This year, SRNS competed among companies such as BMW Manufacturing, Asama Coldwater Manufacturing, Huntington Ingalls Industries, Quality Bridge Inc., Grote Industries, Dubai Customs, Dubai Water and Electricity Authority, the General Government of Dubai and Honda Motor Company.

The SRNS One Stop Shop for Onboarding New Employees received the bronze award in the Global Team Idea of the Year category, which internationally recognizes the best ideas and improvements implemented by a team.

"I want to thank the SRNS management team for their consistent support of the IDEAS Program and always encouraging employees to seek unique and innovative ways to improve performance," said Site Services Continuous Improvement/IDEAS Lead Joe Legge. "It's such a privilege to participate in this conference and interface with Ideas members from around the world to learn how they manage their programs."

The SRNS IDEAS Program provides valuable cost savings and processes improvements by encouraging and promoting innovative suggestions by employees who work with the processes daily.

Ideas America is an internationally recognized organization dedicated to serving administrators and professional managers with resources to increase employee contributions to their respective companies.

And the winners are...

- Joe Legge, Site Services, silver Advocate Award for influence in promoting continuous improvement and suggestion programs within the company; silver award for Global Green Idea of the Year Award with idea involving the Recycling of Milled Asphalt; 4th place and honorable mention for the Safety Idea of the Year Award for Replacing the Tower Strobe Lights with LEDs
- David Dixon, Site Services, bronze Advocate Award for his influence in promoting continuous improvement and suggestion programs within the company; gold Safety Idea of the Year Award for his Solution to Wet-Stacking Issues in Tier 4 Portable Diesel Generators
- Blake Leaphart, Continuous Improvement, gold award for Best Program Administrator
- Paula Croom, Environmental, Safety, Health and Quality Assurance, silver Champion Award for involvement in continuous improvement and suggestion programs; global Kudos award for outstanding ideas program support
- Laura Barsh, SRNL, bronze Champion Award for involvement in continuous improvement and suggestion programs; global Kudos award for outstanding ideas program support
- Kenny Franklin, SRNL, gold Evaluator Award for excellence in evaluating and analyzing ideas
- Deanna Goodlove, Information Technology, global Kudos award for outstanding ideas program support
- Melody Bell, F Area Operations, global Kudos award for outstanding ideas program support
- Kirby Thompson, Engineering and Project Management Control System, global Kudos award for outstanding ideas program support
- Max Cavett, Site Services, global Kudos award for outstanding ideas program support
- Veronica Thomas, SRTE, global Kudos award for outstanding ideas program support



SRNS Engineers John Bradley (left) and Joao Cardoso-Neto (center) work with SRNS Mechanic Thad Ashley while inspecting MicroBlowers™ used to draw chemical vapors from soil and groundwater at SRS using only 20 to 40 watts of solar power per unit. A single unit removed 234 pounds of solvent compounds from the subsurface during a 10-month test.

Passive cleanup, active cost-savings

Low-cost technology in M Area seepage basin saves \$200,000 annually

An environmental cleanup project has reached a major milestone with the complete transition from high-cost active cleanup methods to low-cost passive technology that relies primarily on the forces of nature.

For decades, SRS personnel worked to remove solvent degreasing agents from the groundwater beneath a former pond-like body of water, known as the M Area Seepage Basin.

“All the water, including the contaminated soil that formed the bottom of the basin, were removed during the first phase of the project about 20 years ago,” said John Bradley, SRNS Engineer. “Since that time, we’ve made significant progress remediating a large source of degreasing solvents found in the soil and groundwater beneath the former basin using an active remediation process referred to as Dynamic Underground Stripping (DUS).”

DUS injects steam to mobilize subsurface contaminants so they can be removed with pump-driven Soil Vapor Extraction Units. DUS is credited with removing approximately 500,000 pounds of the solvents from M Area soil.

After years of active remediation requiring a highly mechanized system, SRS has fully transitioned to passive environmental cleanup technology, harnessing the power of nature and resulting in a cost savings of approximately \$200,000 a year, Bradley explained. Most of the savings related to this change in approach are associated with needing less electricity, equipment maintenance and operations personnel.

To remove the remaining solvents from groundwater beneath the now closed and earthen-capped seepage basin, SRNS primarily uses

MicroBlowers™, a highly passive cleanup method. Units have been installed at wells located throughout the cleanup project. They are designed to generate a vacuum that exhausts solvent vapors. Each unit requires only 20 to 40 watts of solar power.

A single MicroBlower removed 234 pounds of solvent compounds from the subsurface at SRS during a 10-month test.

“Early active groundwater cleanup projects at the M Area Seepage Basin concentrated on using more aggressive methods to separate and remove the contaminants from tens of millions of gallons of groundwater,” said Joao Cardoso-Neto, Project Manager, SRNS Environmental Compliance and Area Completion Projects. “Examples of active technologies include steam injection and air stripping, requiring the power of large electric pumps, support facilities and monitoring equipment.”

“The time had come to transition completely from active groundwater cleanup methods related to the M Area Seepage Basin Project to the passive MicroBlowers,” said Bradley. “It was like going from a 60-horsepower blower to a hairdryer. We have high expectations of continued success at this cleanup site.”

Working with state regulators, more than 60,000 pounds of non-radioactive contaminants have been removed from the groundwater beneath SRS since 2008 at a cost savings of more than \$5 million, adding to the total of 1.6 million pounds of total nonradioactive material removed beneath SRS since the initiation of site cleanup programs.

Technical Services pilots non-exempt mentoring circle

SRNS recently launched a pilot mentoring circle for non-exempt employees known as Field Level Championing (FLC) as part of their commitment to employee professional development.

The FLC program matches a group of employees with similar professional development interests and provides a structured means for them to come together, learn, grow and enhance professional relationships.

"I am very excited about this mentoring approach," said Geoff Reynolds, Director of Site Services and management sponsor for the pilot program. "The main goal is to increase employee engagement, and this format helps foster that approach. This pilot is consistent with the site's Compelling Place to Work initiative. Better understanding our folks helps ensure we are on track to better utilize their talents to strengthen the site's future."

An application process was opened to the organization's non-exempt population in July 2019, and within two weeks the pilot had expanded into two phases due to the overwhelming response from applicants.

The first phase began in August 2019 and will run through January 2020. This initiative is patterned after the existing mentoring circle program and is based on a curriculum outlined by the participants and their areas of interest for the program.

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"Once I heard of the Field Level Championing program, I knew it would be a practical way to lay a solid foundation on which to build my career here at SRS."

Taylor Williams

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The six-month pilot covers topics such as transitioning to leadership, effective communication and building a strong resume. Each one-hour session hosts multiple guest speakers offering participants vital networking experience with a variety of potential mentors.

"I have been working on site for just under a year now and I was looking for a way to expand my professional skillset and help facilitate a well-balanced team," said Site Services E&I Mechanic Taylor Williams. "Once I heard of the Field Level Championing program, I knew it would be a practical way to lay a solid foundation on which to build my career here at SRS. Learning from the guest speakers and other colleagues' experiences has been a great way to help employees grow and succeed."

The feedback from current participants and those in a pilot ESH&Q circle will be used to expand the program to all non-exempt employees.

Children's Place honors SRNS with team award for financial support

SRNS recently received an award presented by the Executive Director of Children's Place, Inc., Peggy Ford, acknowledging the exceptional financial support SRNS has consistently provided this non-profit organization through their annual Celebrity Waiter Night fundraisers in Aiken.

"We felt it was important to present the Distinguished Team 2019 Award to SRNS because their contributions were way above and beyond anything we could have hoped for," said Ford. "To have SRNS step up the way they did, it was amazing. It was the ray of sunshine we needed to get through a very difficult year. They saved a lot of little kids."

Volunteer "celebrity waiters" serve their friends, family and co-workers dinner during this appetizing and fun event. Funds raised are generated through corporate sponsorships, tips from diners and the purchase of raffle tickets for donated items.

Celebrity Waiter Night has been held for 25 years at participating restaurants to raise funds to support the Children's Place therapeutic childcare program.

This is the only therapeutic childcare program in the area, and one of only two of its kind in South Carolina. Serving children ages 18 months to five years, this program focuses on enhancing social, emotional, behavioral and cognitive development within an early



Children's Place, Inc., Executive Director Peggy Ford (front left) recently presented the Distinguished Team 2019 Award to Savannah River Nuclear Solutions (SRNS) executive Darlene Murdoch for the exceptional financial support provided by SRNS through their annual Celebrity Waiter Night fundraisers. Also participating in the event are (from left, rear) Elizabeth Harm, SRNS, Yolanda Pelzer, SRNS, and Lauren Molony, Community Outreach Director for Children's Place, Inc.

childcare and educational setting. Support therapies include speech, occupational, physical and play therapy.

"The positive impact they have had over the years in meeting each child's unique needs is inspiring. We are pleased to help them make a difference in the lives of these children," said Stuart MacVean.

A United Way of Aiken County agency, the mission of Children's Place is to protect, heal and strengthen children and families from the impact of trauma through education, treatment and prevention services. Children's Place serves Aiken and other South Carolina counties.

Mid-Career Professionals get 'Recharged' at annual event

Aspiring Mid-Career Professionals (AMP) held their third annual Recharge event on Oct. 10 at the University of South Carolina Etheredge Center. More than 170 attendees were present at this year's event to partake in networking opportunities, panel discussions, a resource fair and topical sessions presented by several SRS and community leaders. During the event, AMP also presented their inaugural "Be the Change" award to A.D. Bollig and their new "Going the Extra Mile (GEM)" award to Pamela Brown and Candice Gordon for their efforts to effect positive change both at SRS and in the greater community. AMP is an organization sponsored by SRNS that provides a foundation of leadership principles to empower its membership to exemplify the SRNS "Standard of Excellence" as well as foster an environment of support, through networking and outreach events.



Stuart MacVean addresses attendees at the AMP Recharge event.

25 year reception

Approximately 1,250 current and retired SRNS employees attended the annual SRNS 25 Year Reception at the Augusta Convention Center on Oct. 10. The event honors active and retired SRNS employees who have 25 years or more of continuous service at SRS.



Attendees Randy L. Brown (left) and Mauricio Martinez



Attendees Charlene McNeal (left) and Liz Taylor



Attendees pick up their name tags at the reception.



Robert Starnes (right), a Wounded Warrior and U.S. Army veteran, waits in a hunting blind with his son and escort Rob Starnes during the mobility-impaired and Wounded Warrior hunt.

Annual deer hunt provides memorable event for wounded warriors and mobility impaired

Twenty-five physically disabled hunters recently participated in the 20th annual SRS deer hunt for mobility impaired and wounded military veterans.

During the event, mobility impaired participants hunted alongside Wounded Warriors to pursue the opportunity of a lifetime at no charge. Nearly all the participating hunters continue to live with a serious physical impairment.

"I understand their commitment and devotion to duty due to my previous military service," said Joe Solesby, SRNS Deer Hunt Program Manager. "Over time, I have come to fully realize the high value each of our guests place on attending this event held in their honor and for their enjoyment."

Hunt activities begin with an early morning safety meeting and hearty breakfast and then transitions to quiet seclusion in the forest watching and listening carefully for the telltale signs of the nearby animals. Each participant is assigned an escort who ensures their safety and provides assistance as needed. Meanwhile, volunteers work a large outdoor grill and move quickly about the kitchen to prepare a savory meal for the hunters to close out a memorable morning.

The mobility-impaired hunters are typically from throughout the southeast, while many of the wounded veterans are local residents.

SRS offers over 150,000 acres of pristine, government-owned forest to be hunted each year, benefiting not only the hunter, but drivers travelling the SRS roadways as well. The hunt helps reduce the site's deer and hog population, decreasing the potential for animal-vehicle collisions.

"We experience a significant number of animal-vehicle collisions annually at SRS, and the hunts help to prevent these collisions," said Tony Towns, Natural Resources Program Manager, Environmental Quality Management Division, DOE-Savannah River. "Partnering with the SRNS and our dedicated volunteers, we work to ensure a safe and controlled environment for our hunters."

SRNS manages the hunt and provides sponsorship in conjunction with DOE and the Wheelin' Sportsman National Wild Turkey Federation.

SRNS recognized for regional supplier development

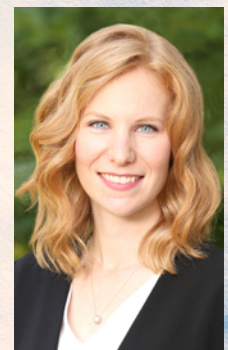
SRNS was recently recognized for its supplier development efforts throughout the region.

SRNS Director of Supply Chain Operations Jay Johnson received the Georgia Minority Supplier Development Council's 2019 Supply Chain Advocate of the Year award and SRNS Small Business Liaison Officer J. Alex Agyemang was presented the Carolinas-Virginia Minority Supplier Development Council's 2019 Coordinator of the Year award. Johnson and Agyemang's impact on regional suppliers through steady leadership, consistent supplier development and direct engagement was recognized through the presentation of these awards.

Johnson and Agyemang competed against supply chain leaders from some of the nation's most recognizable brands: Delta Airlines, IBM, Duke Energy, the Coca-Cola Company, SunTrust Bank, COX, BMW, Fluor, HII, Georgia Power and Bank of America.

Internal Audit's Sarah Murray honored as 'Emerging Leader'

SRNS Internal Auditor Sarah Murray is among 15 internal auditors from around the world recently honored as the 2019 Emerging Leaders by Internal Auditor, the award-winning international magazine published by The Institute of Internal Auditors (IIA).



Sarah Murray

Selected for extraordinary demonstration of innovation, integrity, business acumen and passion, Murray, 27, joins rising stars who are paving the way for expanded influence of internal audit across organizational boundaries. A Certified Internal Auditor, the Augusta University graduate is particularly interested in working with data and notes it always has a story to tell. She aims to overcome common internal audit stereotypes and illustrate the profession as one that's helpful to her peers. An active member and former officer of the IIA's Central Savannah River Chapter, Murray also volunteers with local youth ministries and an organization that provides exterior home repairs and improvements to local community members.

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