

● JULY 2018

SAVANNAH RIVER NUCLEAR SOLUTIONS



SRNS Today



15 million and counting

SRNS workforce racks up
another remarkable
safety milestone

This month

Projects update • Visitors of note • Shark Tank • Summer interns • Awards and honors





Stuart MacVean
SRNS President and CEO

Welcome to the July 2018 edition of **SRNS Today**

A company's future success doesn't happen by chance. It's the result of insightful planning and proactive implementation on a variety of fronts, all geared to the continuation of our support for our nation's missions.

Above all is safety. I'm proud of our workforce for achieving 15 million safe work hours for the second time since Savannah River Nuclear Solutions became the management and operations contractor at the Savannah River Site. Congratulations to our employees on this great accomplishment.

In July, Savannah River Nuclear Solutions completed a major infrastructure project in K and L Areas, two of our most crucial operating facilities at the Savannah River Site. We safely replaced the areas' 60-year-old power distribution equipment, ahead of schedule and millions under budget, to ensure that these key facilities continue to support the Department of Energy's present and future nuclear goals. Congratulations to the teams of SRNS employees who worked diligently on this essential project.

Our workforce is at the heart of our plans and projects. This month, SRNS executives heard from early career professionals who proposed continuous improvement ideas in the annual "Shark Tank" competition. They offered fresh takes on improving SRS operations and infrastructure, and I look forward to seeing their ideas transformed into reality.

Our summer interns are gaining valuable work skills at SRNS and the Savannah River National Laboratory, and they've had opportunities to meet with company leaders and to share the results of their summer at SRS. Today's interns are tomorrow's employees, and I'm excited to see these students learning to be the workforce of our future.

From ideas to implementation, we are committed to sustaining and growing the success of our company, our customers and the nation. I hope you enjoy this month's edition of SRNS Today.



Savannah River Nuclear Solutions, a Fluor-led company with Newport News Nuclear and Honeywell, is responsible for the management and operations of the Department of Energy's Savannah River Site, including the Savannah River National Laboratory, located near Aiken, S.C. The SRNS corporate and community offices are located in the renovated 1912 "Old Post Office" building in Aiken. 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 803.952.9584 or visit our website.

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Another safety milestone



SRNS workforce achieves 15 million safe hours for second time

The SRNS workforce surpassed a significant safety milestone on July 17, marking more than 15 million safe work hours without a single lost day of work due to injury at SRS.

This achievement is the second time the company has surpassed 15 million work hours without a lost day due to an on-the-job injury since becoming the management and operations contractor at SRS nearly 10 years ago.

"SRNS' safety culture is far more meaningful than simply completing a task injury free. This workforce understands that safety equates to the well-being of their peers who have friends and loved ones relying on them to come home in the same condition they left for work, every day. We take safety seriously, not only because it ensures operational quality but because we care about each other," said Stuart MacVean, SRNS President and CEO.

For many, the long-held safety culture legacy at SRS is a way of life that is passed down from full-time employees to new interns gaining valuable experience before entering the job market.

"The SRNS safety culture has not only benefited me while at work, but also at home. Preparedness for field work and evaluation of risk have helped me to be more aware in my activities outside of the site, and is a good practice that I can take with me into my future career," said SRNS intern Tannar Singer, a junior in biochemical engineering at the University of Georgia.

SRNS is responsible for some of the most hazardous work at SRS, from nuclear materials management to site infrastructure. According to MacVean, no task is considered "routine."

"We challenge ourselves and each other to ensure that every task we complete is done through a safety lens. It is a commitment that applies in all of our diverse work environments. We embrace a system of safety analysis and continuous improvement that provides a firm foundation for the safe completion of our work," he said.

SRNS' safety culture extends beyond the well-known nuclear operations housed in some of the nation's one-of-a-kind facilities at SRS. Safety also encompasses the environmental cleanup of Cold War operations and the ongoing monitoring and protection of the surrounding area. Likewise, site security is an equally important element to achieving a strong safety culture.

"Although our safety record showcases our commitment to personal safety, it also represents the rigorous focus our workforce maintains to achieve safety in the broader sense. This includes environmental stewardship and the safety and security of the site, the community and our nation," said MacVean.

The SRNS workforce has earned more than 120 safety-related awards and recognitions since 2008. The company's safety milestone represents 512 days without an injury resulting in a lost day of work.

South Carolina honors SRNS with 'Shining Star' safety award

The South Carolina Department of Labor, Licensing and Regulation has honored SRNS with the Palmetto Shining Star Award for exemplary safety performance again this year. The 2018 award reflects safety achievements in 2017.

SRNS was recognized for achieving injury rates at least 75 percent below the South Carolina average injury rate for similar industries. The calendar year 2017 injury rate for SRNS was 0.32 per 100 employees, with injury rates well below the South Carolina average of 2.0 per 100 employees. SRNS attained more than 10 million

safe hours in 2017 without a workday lost to injury and recently surpassed 15 million safe hours in 2018.

SRNS President and CEO Stuart MacVean said, "Since becoming the SRS management and operations contractor nearly 10 years ago, the SRNS workforce has surpassed more than 10 million safe hours on three occasions while performing highly technical and often hazardous work. Their safety values speak to the heart of our company's culture, which provides a strong and reliable foundation for delivering excellence to our clients."

Powering up

K and L infrastructure upgrades keep key facilities operational

A major infrastructure project was recently completed at SRS—safely replacing 60-year-old power distribution equipment five months ahead of schedule and \$3.9 million under budget, thus ensuring key nuclear materials and spent nuclear fuel storage facilities continue to operate.

SRNS completed the replacement of the system in K and L areas without interrupting operations in either facility.

K Area provides for the handling and interim storage of excess plutonium and other special nuclear materials, while L Area is the consolidation point for all aluminum-clad spent nuclear fuel from research reactors across the United States and around the world.

“These facilities are vital to SRS operations and our national security mission,” said Stuart MacVean, SRNS President and CEO. “Ensuring the reliability of the infrastructure to support these missions is one of our most important jobs. We’ve made a commitment to shore up the site infrastructure and what you’re seeing here is the execution of that long-term plan.”

The power distribution systems that were replaced in K and L areas entered service in 1951 and were long past their intended operational life. The facilities have experienced an increased number of outages in recent years and replacement parts for the systems were no longer commercially available.

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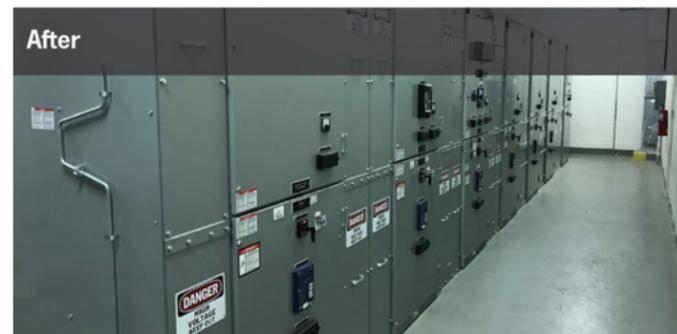
Stuart MacVean

Additionally, the legacy switches ran on compressed air and the air tanks had degraded to the point that workers could not access the facilities unless power to the facility was completely turned off.

“They weren’t able to do anything without turning the whole building off,” said Tim Spieker, SRNS Project Manager for the K and L Project. “The replacement project increases reliability tremendously, which will allow everyone to be more efficient.”

Though the K and L area projects were separate, they were managed as one project to increase efficiency and were executed by the same team of people including Construction, Engineering and Site Services. The \$19 million project was jointly funded by EM and the National Nuclear Security Administration.

“Being able to treat both areas as one project helped us save costs and time. It’s been a great show of teamwork from all involved,” Spieker said.



“Before and after” pictures of the K and L areas power distribution system project



An extended boom grouting the underground storage tanks at SRS

Four underground storage tanks grouted ahead of schedule

SRNS recently grouted four S.C. Department of Health and Environmental Control (SCDHEC) permitted underground storage tanks, located near the H Canyon chemical separation facility, ahead of schedule.

SRNS filled the four 30,000-gallon tanks, which were once used for holding mixed waste (waste which contains both hazardous and radioactive material), with a specially formulated grout. The grout was developed by SRNL for use in in-situ decommissioning of nuclear and radiological facilities. Prior to filling the tanks, a structural mechanical engineer performed a calculation to verify that grouting would not cause a structural failure of the tanks due to weight and pressure.

“Grouting the tanks get us closer to our goal of tank closure,” said Wyatt Clark, SRNS Senior Vice President for Environmental Management Operations. “Benefits of closing the tanks includes lessening the risk to the environment and general public, eliminating the RCRA (or Resource Conservation and Recovery Act) requirements, and cost savings related to manpower hours for daily inspections and required maintenance, along with reducing the footprint of SRS facilities.”

The tanks were verified to be empty earlier this year using cameras and a camera system specially designed by SRNL.

“I appreciate the collaboration between SRNS and SRNL, and the work of our employees to finish the grouting of these tanks quickly and safely,” Clark said.



Shark Tank winner Peter Avioli presents his proposal to the panel of judges.

Annual ‘Shark Tank’ spotlights improvement ideas from LEAP employees

Leaders Emerging Among Professionals (LEAP) third annual Shark Tank event provided early-career professionals with the opportunity to submit continuous improvement ideas to a panel of SRNS executives.

Participants’ presentations were evaluated based on feasibility, overall impact, description of the plan and budget, creativity and originality, and how the idea applies to SRNS’s strategic goals.

This year’s judges included Senior Vice President of EM Operations Wyatt Clark; Senior Vice President of Technical Services Rick Sprague; EM Operations Deputy Manager Janice Lawson; and Director of Business Planning and Integration Freddie Grimm.

First place was awarded to Engineer Peter Avioli, for his idea to use Light Detection and Ranging (LIDAR) via an Unmanned Aircraft System (UAS) for post-closure monitoring to reduce the amount of time inspectors are exposed to hazards, roughly reducing labor costs by 20 percent and save \$32,000 yearly.

Alberto “Tico” Machado, Electrical Engineer, received second place for his idea to install solar panels on buildings in B Area. Third place was awarded to R&D Engineers Don Benza, Khai Nguyen, Catherine Mancuso and Willie Wells for their idea of developing tungsten-infused filaments to be used in the manufacturing of custom parts to shield equipment from radiation. Receiving fourth place was Michael Brown, R&D Engineer, and Paul Beaumont, Hydrogen Processing, for their idea to create an interactive web-based application for finding and sharing resources. With “SRS Information Exchange,” SRNL employees can access and request any desired information in one place.

SRNS President and CEO Stuart MacVean stated, “Shark Tank gives participants the chance to gain experience generating, presenting and articulating ideas in a way that captures attention.”

LEAP is a peer-led organization whose members are full-time employees at SRNS and have earned, at a minimum, an associate’s degree within the past seven years.

Head of U.S. Strategic Command visits SRNS' Tritium Enterprise

Gen. John E. Hyten, Commander of U.S. Strategic Command, visited SRS in July to get an up-close look at the nuclear security mission here.

"NNSA and Strategic Command are close partners," said Gen. Hyten. "Together, we're focused on recapitalizing the United States' nuclear weapons infrastructure and Savannah River's capabilities are essential in making the Nuclear Security Enterprise more responsive and resilient to address future threats."

Gen. Hyten toured facilities for both current and planned missions, including the Savannah River Tritium Enterprise, which carries out the site's long-standing missions related to the radioactive form of hydrogen used in nuclear weapons.

"Seeing the facilities first-hand and spending time with the dedicated nuclear security professionals here was affirmation to me that SRS is well-suited to contribute to our strategic deterrence mission," said Gen. Hyten.

U.S. Strategic Command is responsible for the global command and control of U.S. strategic forces to meet decisive national security objectives.



Wallis Spangler (left), SRNS Senior Vice President for NNSA Operations & Programs, and Nicole Nelson-Jean, NNSA-Savannah River Field Office Manager, welcome Gen. John E. Hyten, Commander of U.S. Strategic Command, to the Savannah River Tritium Enterprise.

SRNS executives take part in MDA anniversary celebration

Officials from the United States and United Kingdom gathered at U.S. Department of Energy headquarters to celebrate the 60th anniversary of the U.S.-U.K. Mutual Defense Agreement (MDA), with SRNS' Wallis Spangler as a key participant in the anniversary celebration events.

Spangler, SRNS Senior Vice President for NNSA Operations and Programs, moderated the "Leaders in Science" panel discussion, which was part of an afternoon that also included remarks by Secretary of Energy Rick Perry and the U.K. Ministry of Defence Permanent Secretary.

SRNS Executive Vice President and SRNL Director Vahid Majidi was also an invited attendee at the event.

The U.S. - U.K. MDA provides for the exchange of defense information relevant to nuclear weapons, naval nuclear propulsion and nuclear threat reduction.

DOE Under Secretary for Nuclear Security and NNSA Administrator Lisa E. Gordon-Hagerty noted that "the MDA is a cornerstone of our nuclear deterrent, and it ensures the security of both the United States and United Kingdom. Time and again, the MDA has proven to be essential in our efforts to ensure that our nuclear weapons capabilities and nuclear propulsion plants are safe, reliable and effective. And through this agreement, we are able to support our nations' objectives in broader arms control, nonproliferation and nuclear security."

"The Mutual Defence Agreement is crucial for global security and the safety of our two nations," said Julian Kelly, U.K. Ministry of Defence Director General Nuclear. "Not only does the agreement



Wallis Spangler (left) moderates the "Leaders in Science" panel discussion as part of events celebrating the 60th anniversary of the U.S.-U.K. Mutual Defense Agreement.

allow us to work closely together, sharing skills and knowledge, it also allows us to ensure our nations, and our allies, remain ready for any eventuality we may face."

Exchanges through the MDA benefit the United States and United Kingdom by advancing each nations' mutual understanding of the safety, security and reliability of their respective nuclear weapon stockpiles. This joint cooperation plays a critical role in the national security partnership between the United States and United Kingdom, to include strengthening nuclear nonproliferation and counterterrorism efforts, designing nuclear reactors for the naval fleet and ensuring the integrity and safety of each nation's nuclear weapons.

A 'Young Professional 2 Follow'

Lee Sims honored by local newspaper for service to community

Lee Sims was recently honored with the Aiken Standard's "2018 Young Professionals 2 Follow" award.

Sims, an Aiken native, serves SRNS as the Deputy Facility Manager for K Area Project Operations. He is an active member of the community, serving both as chairman of the Young Philanthropists Society and on the board of the United Way of Aiken County.

"It's obviously an honor and privilege to be nominated," Sims said. "I still feel undeserving. The work some of the other young people are doing is amazing and very impressive, whether it's working with veterans or in Hitchcock Woods. I'm honored to be recognized at that level and to be a part of this community."

The work that Sims and other young professionals are doing is helping to make a profound impact on the community. Their commitment to service should be an inspiration for us all to join them in their efforts to ensure the future of Aiken is a bright one.

Young Professionals 2 Follow is an award sponsored by the Aiken Standard. This year, 10 young professionals from a wide variety of areas within the local business community were recognized for their service to Aiken County.



The interns of summer

Students gain real-world experience, expand skill sets

This summer, 169 SRNS and SRNL interns are gaining professional experience while contributing new ideas and fresh perspectives at SRS. These students join 18 year-round interns, for a total of 174 interns representing 56 colleges and universities.

“Our reputation on college campuses throughout the U.S. is definitely growing,” said Nate Diakun, SRNS Intern Coordinator. “Word is spreading about the quality and value of our internship program. We have students working with us from 17 states and U.S. territories, including those as far away as California, Nevada, New York, Ohio, Texas and Puerto Rico.”

According to Diakun, the SRNS intern program grew more than 20 percent last year alone.

The program’s goal is to provide an environment that encourages impactful contributions through meaningful projects and peer-to-peer interactions. “We believe the internship experiences provided in many of our facilities help make SRNS and SRNL compelling places to start a career once students receive degrees and become eligible for full-time, long-term employment,” said Diakun.

SRNS recently hosted a reception where interns tapped the knowledge and experience of SRNS executives while connecting with other young professionals.

Attending the event was SRNS engineering intern Magdalena Hansen, a rising sophomore at Clemson University who is working on multiple projects involving SRS nuclear facilities. “One of my tasks has definitely given me more diversity to my skill set. It involves using a CAD (computer-aided design) program to help design stretch-wrap covers for radioactive containers stored in K Area.”



Audrey Byrne (left), pictured with nurse practitioner Denia Labrew, is interning this year in the SRNS medical organization.

“I value this experience and the opportunity to work with people who are in the field I’m pursuing. It’s given me a taste of what the different types of engineers do, which has helped confirm that I want to obtain my degree in chemical engineering,” she said.

Stuart MacVean, SRNS President and CEO, believes that the future of the site relies on attracting and retaining high quality job candidates, including through the SRNS internship program. “As the management and operations contractor at SRS, we offer career opportunities for a wide variety of professionals, including engineers, scientists, accountants and project managers, among many other occupations,” he said.

MacVean noted that the SRNS intern program supports a significant portion of our pipeline to fill open positions. “We test the students, and they become familiar with the important national security and environmental work we do,” he said. “That puts us in the position to graduate about 50 percent of our students into full-time positions.”

“The timing for these young adults as they begin to reach the job market is excellent,” added MacVean. “We are hiring about 400 people a year.”

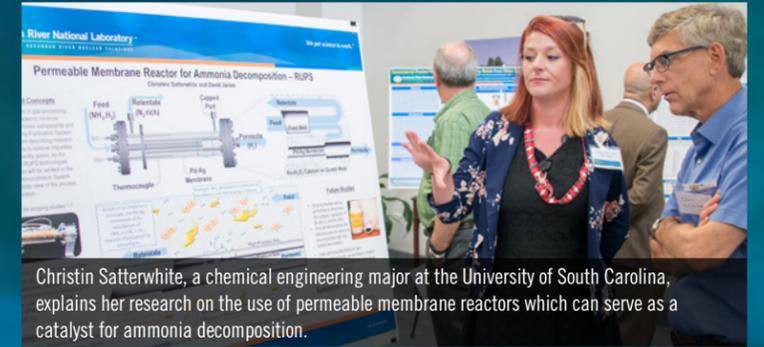
According to Diakun, the acceptance rate of current and former interns offered positions as full service SRNS employees increased from 83 percent in 2016 to 90 percent in 2017.



This year’s interns pose for a group photo with SRNS and SRNL professionals and management during a reception in July.



Hamsa Dirir (right) from the City College of New York discusses his robotics project with SRNS Executive Vice President and SRNL Director Dr. Vahid Majidi.



Christin Satterwhite, a chemical engineering major at the University of South Carolina, explains her research on the use of permeable membrane reactors which can serve as a catalyst for ammonia decomposition.

Future scientists present work at SRNL intern poster session

More than 50 undergraduate and graduate students presented their research at Savannah River National Laboratory’s annual Summer Intern Poster Session on July 25. The event was the culmination of a summer spent in scientific inquiry for lab interns who participated in real-life research projects ranging from environmental remediation and robotic sensors to nanomaterials and 3D imaging. The poster session included students from the Savannah River Environmental Sciences Field Station and SRNL interns participating in a variety of programs including the DOE-EM Minority Serving Institution Partnership Program, the DOE Office of Science–Science Undergraduate Laboratory Internships, DOE Fellows–Florida International University, and the Nuclear Workforce Initiative–Augusta University.



Returning intern Aimee Gonzalez (right), a University of Nevada nuclear engineering student, shares some of her best memories this summer with fellow interns.



SRNS Site Regulatory Instructor John Raeth assists new employee Luke Street during a recent General Employee Training class as Cynthia Harley looks on.

SRNS FIT results in ‘one-stop shop’ for new employees

The first day of a new job is a rush of excitement mixed with uncertainty. And until recently, an employee's first day at SRS involved negotiating a bewildering array of administrative tasks, located in Jackson, S.C., and in three different SRS areas.

“Changing jobs can be a stressful time in a person's life,” said Cristie Shuford, Deputy Site Training Manager. “Our Rapid Improvement Event (RIE) team took a close look at how to make it easier for employees during their first day at work. The first impression of the site is General Employee Training (GET). The instructor is the first person they meet and the venue for the training is their first introduction to SRS.” The RIE focused on improving that first-day experience.

An RIE is a four-day session involving a multi-functional team of subject matter experts, customers and individuals with an outsider's perspective to define how the process currently works, how it should work and how it could look in the future.

“The four components of GET, badging, medical and Workforce Services orientation were previously conducted in different physical locations separated by several miles, and it would take two days to complete everything,” added Shuford. “Our goal from the RIE was to have everything done, in one place, in one day so that

employees don't have to drive from Jackson, to the Badge Office, to Site Medical and then to B Area.”

SRNS has gone to great lengths to improve the onboarding process. Currently, an interim “one-stop shop” is in operation where new hires can enter the 703-46A entry control facility with a temporary badge to receive their GET Training in a nearby conference room. SRNS employees are then badged, drug/alcohol tested and introduced to their SRNS Workforce Services recruiter.

The one-stop shop concept is part of the New Employee Hiring Process Value Stream Analysis (VSA), found within the SRNS Focused Improvement Transformation (FIT). The total cost savings for the VSA, which included four RIEs and three projects through 2018, is more than \$2.5 million. The bulk of the savings can be attributed to process improvements involving the sourcing, recruiting, screening and selecting of job candidates.

In addition, prior to the start of this VSA, it took an average of 120 working days to process a new hire (excluding new Engineering Leadership Development Program employees). Because of the VSA, the average time is now 43 working days. Furthermore, attrition within the first year has decreased from 5.2 percent prior to the VSA to 3 percent.



SRNS implements, reaps benefits of one-click access for mobile apps

SRNS has implemented a new and improved mobile application interface with one-click access.

SRNS employees can now access mobile apps on their SRS-issued Apple devices with one simple click, leveraging a secure browser. SRNS Information Technology (IT) replaced token-based multifactor authentication with a security certificate, allowing users to safely and securely access their apps more quickly and efficiently.

Since the change to the mobile app went live, SRNS IT's mobile applications have gone from 70 unique users per month, to over 2,000 in May 2018. “We appear to be the first in the complex to provide access to site-based applications in this fashion through a mobile device, and we've done it in a way that's secure and cost effective because we're not writing a separate set of code directly for the i-devices,” said Jeff Krohn, SRNS Chief Information Officer.

Before the one-click access to mobile apps was available, employees had to use an RSA SecurID hardware token and a pin number to access the applications on their government iPad or iPhone.

This transition is complemented by an overall effort to build apps using Service-Oriented Architecture (SOA). SOA is a method of organizing software by using components like building blocks that are easy to assemble and reconfigure.

“This effort fits within our strategic plan to move towards a mobile platform that allows the end users more flexibility,” said Lewann Belton, DOE-Savannah River Director, Cyber and Information Technology Division. “With SOA, we're now able to provide applications for remote users who are out in the field using a mobile device, and they're able to download data in real time versus waiting to go back to the office.”



Centerra Security Lieutenant Chris Pinkard (left) and Aiken County Sheriff's Office Staff Sergeant Stephen Shunn were presenters at the Presidents Safety Council.

SRNS President's Safety Council hears presentation on distracted driving

The Aiken (S.C.) County Sheriff's Office Staff Sergeant Stephen Shunn recently gave a presentation on highway safety and distracted driving to the SRNS President's Safety Council.

The presentation was sponsored by the SRNS Business Management “Lions,” one of the many SRNS Local Safety Improvement Teams (LSITs), which are employee-driven groups created in areas across SRS to sustain and advance the safety culture at the site. The Lions reached out the Aiken Sheriff's Office and Centerra as presenters at the meeting.

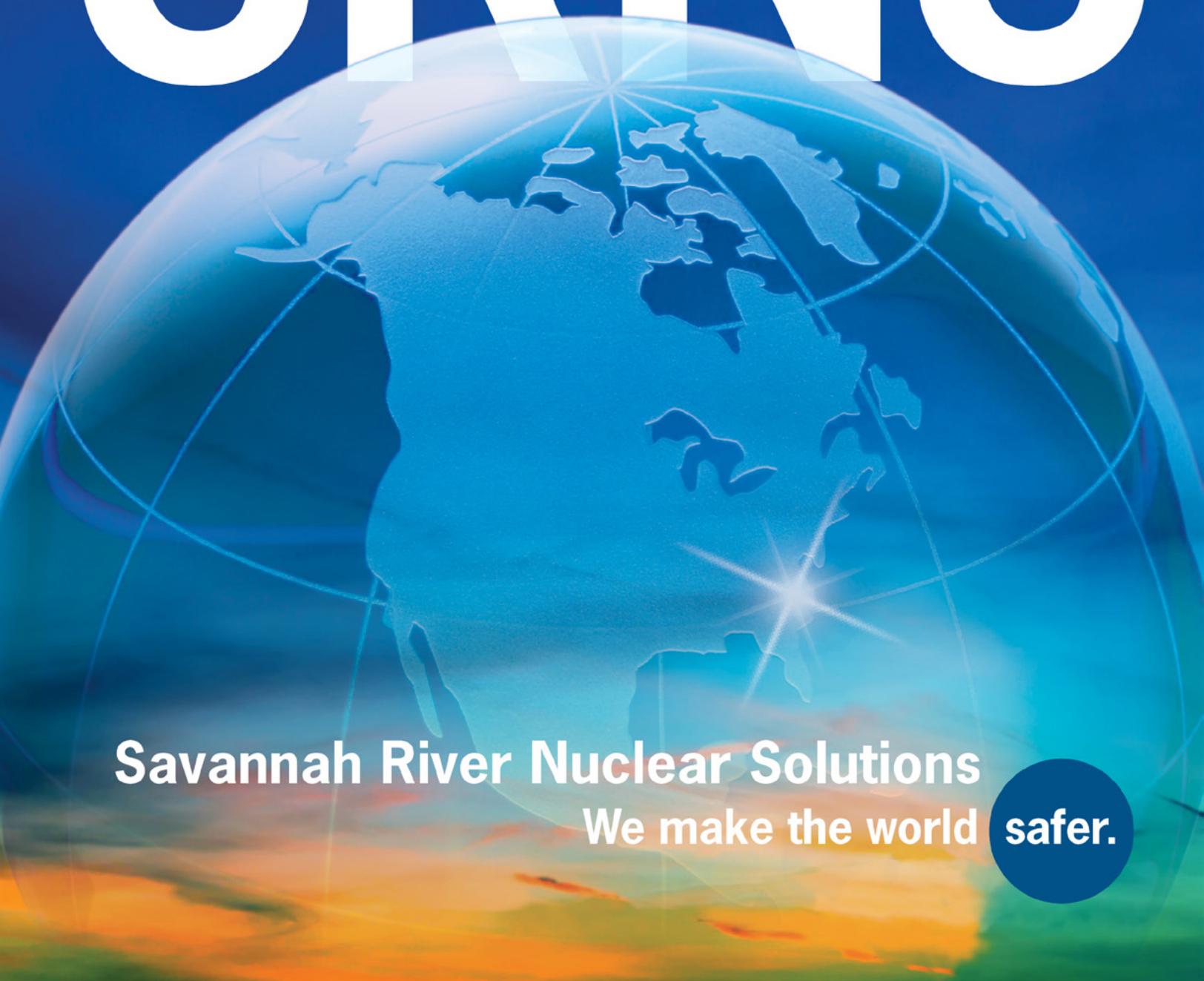
Sgt. Shunn emphasized the point that being aware of the causes of distracted driving can improve everyone's roadway safety knowledge.

“It is important that when we are operating vehicles at the Savannah River Site and off-site, coming to work and going home, that we leave our cell phones and electronics alone, and focus on our driving at all times,” said Shunn.

Members of LSITs make it their mission to promote, champion and support safety involvement for both on and off-the-job safety.

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NONPROLIFERATION • ENVIRONMENT

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Savannah River Nuclear Solutions

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