

SRNS awarded contract extension, renewal options

● JULY 2019

SAVANNAH RIVER NUCLEAR SOLUTIONS



SRNS Today



Iron Plan

Recycled metal filings
yield low maintenance
cleanup in P Area

This month

K Area optimization • Smart Business award • Life-saving training • United Way events



Stuart MacVean
SRNS President and CEO

Welcome

to the July 2019 edition of

SRNS Today

I'm pleased to announce that the Department of Energy has awarded Savannah River Nuclear Solutions a 14-month contract extension, with two additional 12-month options. This extension is tangible proof in DOE's confidence in our ability to get the job done in our role as the management and operations contractor for the Savannah River Site. Hats off to our workforce—it's their hard work and dedication that makes our company a success.

In addition to the contract news, SRNS is once again in the spotlight for our support of national security, our conduct of "smart business," and our safety performance.

Recently, we welcomed Vice Admiral Dave Kriete, Deputy Commander of the U.S. Strategic Command on a visit to SRS. Vice Admiral Kriete toured the Savannah River Tritium Enterprise as well as the proposed Savannah River Plutonium Processing Facility. I'm pleased that he was able to see first-hand our current contributions and future plans for national security.

This month, SRNS was also honored by two South Carolina organizations. The S.C. Department of Health and Environmental Control presented our company with its 2019 Smart Business Recycling Award for outstanding efforts in recycling and waste reduction. And, we also received the Palmetto Shining Star Award from the S.C. Department of Labor, Licensing and Regulations for our strong safety culture at SRS.

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

SRNS awarded 14-month contract extension with two 12-month renewal options

DOE has extended the contract with SRNS to continue management and operating services at SRS by 14 months through Sept. 30, 2020, with two additional 12-month options.

SRNS services include, but are not limited to, environmental management cleanup, developing and deploying technologies to support the cleanup mission, providing capability for supporting the enduring nuclear weapons stockpile, and processing and storing nuclear materials to support U.S. nuclear nonproliferation efforts.

In a letter to employees announcing the extension of the contract, Stuart MacVean stated, "This is very positive news that validates the great work you've accomplished, as well as DOE's confidence in our ability to get the

job done. The timing is ideal as we continue to gain momentum on fast-paced EM projects and new NNSA missions in our important work to make the world safer. I'm proud of the SRNS team and I congratulate each of you on earning this extension. I look forward to working with you over the next few years and I'm optimistic about our future opportunities to serve our customers."

SRNS missions fall under DOE's Office of Environmental Management (EM), who is the landlord for SRS and responsible for cleanup missions and the Savannah River National Laboratory. SRNS also supports NNSA at SRS, which includes responsibility for the nuclear weapons stockpile programs and nonproliferation activities at the site.



Vice Admiral Dave Kriete recently visited the proposed SRPPF along with NNSA-Savannah River Field Office Deputy Manager Jeff Allison (left) and SRPPF Mission Director Dave Olson.

U.S. Strategic Command Deputy Commander visits SRS tritium facilities, proposed SRPPF

Vice Admiral Dave Kriete, Deputy Commander of U.S. Strategic Command, visited SRS to see some of the ways current and proposed SRNS missions support the nation's nuclear deterrent. Vice Admiral Kriete toured the proposed Savannah River Plutonium Processing Facility (SRPPF), which NNSA has proposed for the production of plutonium pits needed for our nuclear deterrent. He also toured the Savannah River Tritium Enterprise, which since 1955 has been supporting the nation's requirements related to tritium, the radioactive form of hydrogen. He also spent time talking with former submariners who now work at SRS.



Recycled iron used to neutralize solvents in P Area

SRNS is using 760 tons of recycled iron filings from engines to treat contaminated groundwater in a section of the aquifer beneath P Area.

From 1954 to 1984, the site's P Reactor supported the nation's nuclear deterrent during the Cold War, producing tritium and plutonium. Solvents used at P Reactor and other waste units across SRS seeped into the subsurface over time creating the need for innovative remedial technologies to clean-up the groundwater at these locations.

In this remedial technology, the filings are mixed with a food-grade, starch-like material and injected into 22 wells, each 12 feet apart. A high-pressure injection process creates fractures in the subsurface rock, creating space for the mixture to fill. Upon completion, a four-inch thick, water-permeable wall consisting of iron filings will extend down 135 feet below the earth's surface.

The 264 foot-long, 23,000 square-foot metal wall will allow groundwater to flow through and destroy the solvents in the process.

"The contaminated water cascades down through the filings, significantly increasing the amount of contact with the iron. The interaction with the iron breaks down the structure of the contaminants, becoming harmless," said Philip Prater, Senior Physical Scientist, U.S. Department of Energy-Savannah River. "And this system is designed to work for decades with little maintenance, as it has in other parts of the country."

According to Prater, the remedial technology SRS is deploying at P Area is cutting-edge in that it is trench-less, and unlike permeable reactive barriers of the past, it can be installed at greater depths. This technology also allows for precision placement, enabling SRS to intercept the contaminated groundwater plume in a narrow zone as it travels along an old, subsurface stream bed channel.

"This is the first time we have experimented with this approach (at SRS) using a subsurface wall to capture and neutralize solvents. We are confident that our goals will be fully achieved related to this remarkably cost-effective project at the Savannah River Site's P Area," said Mark Amidon, a scientist at Savannah River National Laboratory.

"This highly efficient environmental cleanup technology is another asset within the arsenal of environmental restoration tools assembled for use across SRS," said Seth Miller, the SRNS Project Manager for this cleanup campaign.



A worker prepares injection equipment to be used in the groundwater treatment process near the former P Reactor, seen in the background.

K Area begins process optimization to support plutonium down blend

SRNS recently began a process optimization initiative in the K Area Complex (KAC), which will reduce radiological exposure, improve process efficiency and align with long-term DOE plutonium down blend goals.

“K Area is ramping up its capabilities in order to meet the needs of DOE,” said Facility Manager Steve Wilkerson. “We are moving from one shift to two shift operations, with the plan of being at four shifts by 2021.”

Currently, all plutonium down blending is done inside the K Area Interim Surveillance glovebox. A glovebox is a stainless-steel box with safety glass panels. It has fitted glove-port openings to allow contaminated materials handling, and shields and separates workers from associated hazards. KAC employees found that modifications to the glovebox could help make the process smoother. Some of these improvements included:

- A new wing cabinet installed on the side of the glovebox, which allows for easier introduction of material in the glovebox through a breechlock, compared to bagging in material through a smaller port
- Specially designed blend can carts, which will roll the heavy canisters holding the material through the glovebox
- A new six-inch bagport for bagging out blend cans from the glovebox, which will also reduce the amount of transuranic waste generated
- New CrimpLoc™ tools for bag closure
- Relocating tools inside the glovebox to allow for one pass through of the material as compared to the previous method, which required several passes through the glovebox to complete downblend.



The KAC new mockup glovebox

To ensure employees are trained and proficient at the new procedures, KAC built a new mockup glovebox, which is housed in a clean environment. Not only does the new mockup incorporate the process optimization items, it is also made of aluminum, making it sturdier than the previous wooden version.

“We are on track to have process optimization complete by spring of 2020,” said DOE Nuclear Materials Manager Maxcine Maxted. “These improvements required a lot of planning and work to complete, but will result in a safer, more efficient process.”

Williams provides perspective on nuclear careers to ATC students

SRNS recently co-sponsored a nuclear education information session at Aiken Technical College (ATC) to educate students on ATC’s radiation protection technology program and promote nuclear careers.

The radiation protection technology program, which began in 2008, teaches students how to minimize radiation exposure, perform surveys for radiation and contamination, and analyze data. At the completion of the program, students earn an Associate in Applied Science degree and certifications in job site safety and nuclear fundamentals. Additionally, students are required to participate in internship programs that give them the hands-on experience necessary to manage radiation control in the nuclear and power industries.



Kent Williams

SRNS Director of Radiological Protection Kent Williams, a keynote speaker, gave attendees an employer’s perspective of the program. Williams discussed the growing need for an educated nuclear workforce and the tremendous impact the ATC program has had on providing these workers for SRS.

“The fundamentals of this program are invaluable to our company. We find that the employees who come out of this program are extremely knowledgeable in their field and well-versed in the Site’s safety culture,” said Williams.

ATC nuclear education alumni SRS Radiological Protection Front Line Manager Kristin Brant and Radiological Protection Inspector Josh Cash, spoke about how the program prepared them for a career with SRNS.

The Workforce Opportunities in Regional Careers grant is one of many financial aid options for nuclear education. NNSA Administrator Lisa Gordon-Hagerty recently announced a \$5 million NNSA contribution to CSRA schools to develop the future SRS workforce.

When seconds count...

SRNS trainers honored for teaching lifesaving courses

Three members of the SRNS Site Training Department recently received Champions Awards from SRNS Chief Operating Officer Dennis Carr for their work to certify employees in CPR and first aid, leading to lifesaving responses at SRS and in the community.

Dr. Lisa Sanders, Kevin O'Donnell and John Raeth were recognized for teaching the classes that have led to 30 SRNS employees responding to save the lives of coworkers, family members or strangers since 2013.

"It is humbling to see the significant number of employees who voluntarily seek out CPR and first aid training and the trainers who strive to provide as many classes as possible," said Rick Sprague, SRNS Senior Vice President, Environmental, Safety, Health and Quality.

"The work of the SRNS trainers and the compassion of employees frequently come together to save lives. Each of those cases serve as a reminder of the importance of this valuable certification, and those who are committed to teaching the course."

Emergencies can happen anywhere, at any time. However, according to the American Heart Association, four out of five cardiac arrests occur at home. Many victims of sudden cardiac arrest appear healthy and may not have any known heart diseases or risk factors.

According to SRNS Training Instructor Kevin O'Donnell, a former U.S. Navy corpsman and paramedic, "There's no app for CPR, and it's



"There's no app for CPR."

Kevin O'Donnell



SRNS Trainers Dr. Lisa Sanders, Kevin O'Donnell (left) and John Raeth were recently honored for teaching lifesaving techniques.

necessary to have the training when seconds can mean the difference between life and death."

In addition to learning CPR, trainees in the CPR and First Aid Certification course are also taught how to respond to a person choking and proper techniques to address other common emergency situations.

"CPR classes will give trainees the tools and the confidence they need to transform from the role of a bystander to a lifesaver," said Sanders, a 20-year emergency room physician, who teaches CPR to employees, paramedics and other offsite medical personnel. "I get excited when I see the 'light bulb' go on for a student and it's even more meaningful when we see a trainee respond and save a life. It's important to know we can help others and protect ourselves in a medical emergency."

DHEC honors SRNS with Smart Business recycling award

SRNS was honored with the 2019 Smart Business Recycling Award from the S.C. Department of Health and Environmental Control for outstanding efforts in recycling and waste reduction.

South Carolina aspires to reach a 40 percent recycling rate by 2020, which means that 40 percent of waste produced in the state is recycled or composted instead of being sent to a landfill. SRNS contributes to this goal through recycling, reusing and implementing sustainability practices in all aspects of business at SRS.

In 2018, SRNS recycled 504 tons of municipal-type waste (glass, metal, paper, etc.) out of a total 872 tons; that's a recycle rate of 57.8 percent, well above the state goal.

"It is an honor to receive this award in recognition of our ongoing waste reduction achievements as well as our dedication to preserving and protecting the nation's natural resources," said Amy Meyer, SRNS Environmental Compliance Manager. "SRNS has a high-efficiency recycling program that is integrated into everyday work."

SRNS has also sought out opportunities to beneficially reuse their waste. Instead of dumping over 21,360 metric tons of asphalt and concrete left over from paving major Site roads, SRNS pledged to use the material to repave secondary Site roads as well as roads in nearby Orangeburg County, S.C.

Additionally, the environmentally-conscious team uses several waste reduction and sustainability practices. Wood waste is used to power the onsite biomass facility, most of the light-duty vehicles were replaced with alternative-fuel models, and energy-efficient electronics were purchased to reduce greenhouse emissions. Solar-powered technology and drones are also used to reduce the Site's energy consumption. All of these practices have contributed to decreasing waste disposal costs and solidifying the Site's reputation as an environmental steward.

In addition, a partnership with the non-profit Savannah River Site Community Reuse Organization (SRSCRO) allows excess government equipment and materials to be sold, with the revenue divided among surrounding counties in South Carolina and Georgia to aid with infrastructure improvement.





Students representing one of 33 teams participating in this year's Future City competition explain their model city to the judges during the event at USC Aiken.

Top marks in education support

Area educators praise SRNS Education Outreach programs

Over the last year, more than 30,000 students and educators, equivalent to the population of Aiken, S.C., directly benefited from 14 SRNS Education Outreach annual programs and events.

Since SRNS became the management and operations contractor in 2008 at SRS, more than 230,000 students and teachers throughout the seven counties near SRS have benefitted from their dedicated efforts to enhance learning.

"It's hard to fathom the long-term impact of the many contributions made by SRNS for the benefit of educators and students alike," said Dr. Sean Alford, Superintendent, Aiken County Public Schools. "Our partnership is based on a mutual commitment to take local education to the next level."

The education outreach programs provided by SRNS emphasize science, technology, engineering and math (STEM). These STEM-intensive programs include the Traveling Science Demonstration Program, Science & Technology Enrichment Program, Innovative Teaching Mini-Grants, Introduce a Girl to Engineering and various workshops, tours, talks and demonstrations.

Many of the programs offered annually are based on learning through friendly competition, testing the depth of the students' knowledge and experience. They include the S.C. Regional Science Fair, DOE Savannah River Regional Science Bowl and the Regional Future City Competition (middle school engineering).

One of the SRNS educational events that reaches the most students each year is CSRA College Night. Last year, more than 5,000 area high school students and parents participated, requiring use of the entire floor space within the James Brown Arena in Augusta, Ga.

Typically, 130 colleges and universities attend College Night, each manning an information booth. This event is coordinated by SRNS personnel with the help of volunteers from several local companies. Over the years, more than \$300,000 in scholarships has been presented to students attending College Night.

In addition, SRNS annually offers a "mini grant" program to provide financial assistance to area teachers through corporate funding. This competitive program provides grants to CSRA public and private elementary and middle school teachers for innovative ideas. During this past school year, grants for 76 teachers, totaling \$50,000, were awarded. To date, more than \$550,000 has been contributed to support educators throughout the region.

"It's very nice what SRNS does for us," said Jannie Dee Johnson, a fourth-grade teacher at Greendale Elementary, New Ellenton, S.C. "Not many people understand how much of our own money we spend on supplies and materials for our students. It's a great feeling that a company would spend that much to support local teachers."

To better reach adults pursuing two-year degrees and living near SRS, Memorandums of Understanding have been signed with local technical colleges. Each documents the partnership between these colleges, DOE and SRNS, while providing for the creation of advisory boards to oversee curriculum and course management related to SRS work scope.

"Because we hire a high percentage of our employees locally, we believe in doing our part towards enhancing education at all levels," said Stuart MacVean. "It's a corporate value we truly believe in and will continue to support."



Walt Joseph speaks to SRNS employees about the site's valuable contributions to the nation and preserving its heritage.

Walt Joseph offers perspective on SRS history, legacy

Walt Joseph has spent his life serving his country as a soldier and working at SRS. One of the few surviving original employees from the early 1950s, his patriotism and commitment to preserving the Site's heritage are timeless.

During a recent presentation to the SRNS Site Training Department and new hires, Joseph recalled SRS contributions that helped end the Cold War.

"Very few people recognize that SRS made major contributions to this nation and to the world in terms of avoiding World War III and winning the Cold War," Joseph explained. "SRS is one of the reasons the Soviets could not keep up with our technology."

Joseph and his wife, Paula, moved to Aiken from Pennsylvania in 1954 so Joseph could pursue a career at SRS. Prior to moving to Aiken, he had already served in the military and completed his master's degree in mechanical engineering at Penn State University. Joseph first began working at, what was known at the time as "the Savannah River Laboratory," where he stayed for 12 years. "We did some pioneering work on the effects of radiation on structural materials," Joseph said.

After several years at the lab, Joseph wanted to share the important work he was doing at the site, which wasn't an option in his first SRS role. He requested to transfer from the laboratory to a Site operations position. "I decided that while I loved the science and technology happening in the lab, I liked people more,"

Joseph explained. He worked in many positions, from running transportation to doing research in equipment engineering.

As retirement approached, Joseph felt his contributions to the Site were not over. "SRS has made an enormous contribution to the community, the country, and the world. I think it's important that local people understand this: take pride in it and support it in all of its various aspects," Joseph said.

In the early 2000s, Joseph and a group of other SRS supporters realized the site was missing something other nuclear sites have—a heritage museum. In 2003, plans began to create a heritage foundation for the site he had spent a career serving.

Joseph said, "I think SRS continues to have the potential for progress into the foreseeable future, and to do it, support is needed from the community. I hope that the museum is able to help build that kind of support through education about the Site's important history and service to the nation."

Investing countless hours to bring his vision to life, the Savannah River Site Heritage Foundation, was chartered in 2005. And now, the SRS Museum is located on Laurens Street in Aiken, near the SRNS Aiken Office. Currently closed for interior restoration, the museum will host a grand re-opening ceremony in August.

At the end of his presentation to SRNS employees, Joseph offered this advice. "Be aware of your heritage and take pride in what you are doing for our nation," said Joseph.

SRNS honored with Palmetto Shining Star safety award

SRNS recently received the Palmetto Shining Star Award from the S.C. Department of Labor, Licensing and Regulations, demonstrating the strong safety culture at SRS.

The award reflects safety achievements and successful health and safety programs from 2018. Employers must meet certain criteria in order to be nominated, such as having zero recordable injuries throughout the year or reaching one million safe work hours without a lost-day due to injury.

SRNS completed 2018 with an incidence rate that was 75 percent below the national average. The operations workforce exceeded 17 million safe work hours in 2018, and the construction workforce exceeded two million safe work hours.

In June, SRNS marked a new company safety record when the team surpassed 25 million safe work hours.

Stuart MacVean says the company continuously builds upon a long-standing legacy of safety at SRS. "Safety is woven into the fabric of the Site and is a core value for all employees. This award is further validation that our employees and the Site culture continue to make SRS a safe, secure and reliable asset, both locally and nationally," MacVean said.

The S.C. Department of Labor, Licensing and Regulations awarded the Palmetto Shining Star to 24 South Carolina-based companies.

A home run for United Way

Annual softball tourney raises more than \$23,000



SRS hit a home run at the 15th annual SRS Softball Tournament by raising more than \$23,000 for various local United Way (UW) agencies through concession sales and other fundraising efforts by volunteers. The total donation includes a 50 percent corporate match by SRNS parent company, Fluor.

This year, 19 teams with 300 players and coaches representing multiple SRS contractors came in support of local UW agencies. SRNS led the way with 14 teams, while contractors Parsons and Savannah River Remediation made up the remaining teams. The SRNS Project Management and Construction Services “Menghi’s Minions,” who sponsored the S.C. Autism Society, took home the championship, defeating SRNS Engineering’s “Purple Reign.”

SRNS employee and tournament organizer Eric Schiefer has watched this event grow substantially over the years. “The most rewarding part of being involved with the tournament is being able to bring employees from all over the site together for a worthy cause through some friendly competition like softball,” said Schiefer.

The 2019 SRNS UW Campaign Chair A.D. Bollig was thankful for the strong support and hard work from all SRS employees. “I appreciate our employees continued support of United Way events each year,” said Bollig. “Our employee campaign significantly impacts United Way agencies in South Carolina and Georgia, and every contribution makes a big difference in someone’s life.”



SRNS Project Management and Construction Services “Menghi’s Minions” went 4-0 to take home the gold at the 2019 SRS United Way Softball Tournament.

Intern Reception

SRNS held its annual internship reception, allowing interns to network with their peers and senior SRNS management and to discuss their internship projects. At right, Rick Sprague, SRNS Senior Vice President for Environment, Safety, Health and Quality, talks with intern Jessica Schifer, who worked in the H Canyon Process Engineering department this summer.

The SRNS internship program is designed specifically for college students and graduates who are seeking to diversify their skillsets and professional development.





Andrew O'Grady and Kathryn Karius work together to repair railings at one of four Tri-Development UW agencies receiving assistance from early- and mid-career SRNS professionals during Project Unite.

LEAP, AMP team up for UW with inaugural Project Unite

Fifty early- and mid-career professionals from SRNS recently came together in a friendly competition to support a local United Way agency during a day off from work.

Employees from the SRNS organizations Leaders Emerging Among Professionals (LEAP) and Aspiring Mid-Career Professionals (AMP) labored at four United Way Tri-Development facilities located in Aiken and North Augusta, S.C., during the inaugural Project Unite event.

"Both groups, AMP and LEAP, have a strong history of community service," said SRNS Scientist Marion Cofer who planned and coordinated Project Unite, a day dedicated to assisting a local United Way agency. "Tri-Development was the agency determined to have the most needs at this time according to representatives of the United Way of Aiken County. Making it competitive to see which group of SRNS professionals could recruit the most members to serve during the event just made the whole thing that much more fun. There was a healthy rivalry out at each work site."

Cofer added that a fellowship luncheon for the volunteers followed the morning of hard work. The meal strengthened the bond between the members of the two groups, while hopefully engraving in their minds how important it is to look out and care for those in need throughout the area.

A wide variety of services and repairs were performed at each Tri-Development location depending on their needs, ranging from painting to replacing porch railings.

"Both LEAP and AMP, were equally represented and to see the enthusiasm across all the demographics they represent is really awesome," said Andrew Boggess, SRNS employee and LEAP President.



Tour attendees get a closer look at one of the new interpretive panels about Ellenton.

● Ellenton tour takes visitors back to the beginning of SRS

As SRS approaches its 70th anniversary, it is important to reflect on the history that has built the site, especially as new generations enter the workforce. The SRS tour program recently hosted its inaugural historic tour of Ellenton, S.C., taking attendees back to where it all started.

SRNS manages the site tours program for SRS, offering a variety of public tours throughout the year.

The Ellenton tour features new street signs and interpretive panels funded by a \$100,000 DOE Legacy Management grant and will include a special exhibit for the SRS Museum anticipated in the fall of 2019.

"SRS will be here for a long time, and these towns are a part of its story," said Savannah River Archaeological Research Program Administrative Manager George Wingard. "It is up to the next and subsequent generations to preserve and keep the stories of those who once lived in Ellenton alive, remembering the sacrifices that were made for the good of the country to build this site."

While SRS provides numerous tours around the site, both public and private, Ellenton is one of the most well-documented former towns with photos of houses, stores and trains passing through, providing a glimpse of residents and the town they loved.

"This was my first time visiting Ellenton, so it was really exciting to be a part of SRS' inaugural tour. I'm so grateful for the opportunity to see where my great-grandfather, Fred C. Brinkley, lived and worked," said tour attendee Liana Orr. "For years now, I've wanted to know about the Brinkley School that he funded, so it was wonderful to finally see a picture and learn more about it. This has been such a special experience."

For more information on upcoming tours, go to: <https://www.srs.gov/general/tour/public.htm>

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