

● JANUARY 2019

SAVANNAH RIVER NUCLEAR SOLUTIONS



# SRNS Today



## 20 million safe hours

SRNS employees mark a major milestone in safety excellence

### This month

Pit production planning • L Area innovation • Computer Science Week • Future City







**Stuart MacVean**  
SRNS President and CEO

# Welcome

to the January 2019 edition of

# SRNS Today

At Savannah River Nuclear Solutions, the responsibility to conduct our missions safely and securely is embedded in our foundation. It's who we are and what we're all about.

As we embark on a new year, we are renewing our commitment to safety, while creating value in the workplace and working to make a positive impact in the surrounding region.

We began on a high note surpassing 20 million safe hours without a lost day of work due to injury. I'm proud of our workforce in achieving this remarkable milestone.

Also in January, SRNS continued its preliminary work for the National Nuclear Security Administration on the production of plutonium pits. This new mission, planned to repurpose the SRS Mixed Oxide Fuel Fabrication Facility, is vital to strengthening our national security.

In Operations, continuous improvement is a way of life. SRNS engineers used innovative thinking to correct an equipment issue in L Basin, and SRNS Environmental Management Operations streamlined its continuing training plan to enhance our disciplined operations.

And in the community, SRNS continued to support important education initiatives in the Central Savannah River Area.

I am proud of our employees' commitment to delivering results safely and securely and I look forward to a great year in 2019.

Thank you for your continued interest and support of SRNS as we work to make the world safer.



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 803.952.9584 or visit our website.

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



## SRNS begins preliminary plans for pit production plant

The National Nuclear Security Administration (NNSA) has tasked and funded SRNS to begin preliminary planning work related to producing plutonium pits at the Savannah River Site (SRS). This is an enduring mission that is vital for strengthening the nation's nuclear security.

In May 2018, NNSA and the Department of Defense announced that the Nuclear Weapons Council had certified that the NNSA's recommended alternative for recapitalization of the nation's defense plutonium capabilities "represents a resilient and responsive option to meet DoD requirements." NNSA's recommended alternative repurposes the Mixed Oxide Fuel Fabrication Facility at SRS to produce plutonium pits while also maximizing pit production activities at Los Alamos National Laboratory in New Mexico.

SRNS has established and mobilized initial teams for both the transition of the former MOX facility and the development of the proposed production plant at SRS. This initial work, which includes a conceptual design of the proposed plant, will provide the information needed to inform upcoming decision-making, approvals, and funding, all of which will be needed before the physical work to establish the pit production plant can be performed.

"The preliminary plans SRNS is developing show how we will make use of SRS' expertise, existing facilities, and

“

*"The preliminary plans SRNS is developing show how we will make use of SRS' expertise, existing facilities, and infrastructure to start up and carry out this important work, which builds on the site's historical service to the Nation's nuclear security."*

**Stuart MacVean**

”

infrastructure to start up and carry out this important work, which builds on the site's historical service to the Nation's nuclear security," said Stuart MacVean, SRNS President and CEO.

NNSA is a semi-autonomous agency within the U.S. Department of Energy responsible for enhancing national security through the military application of nuclear science. NNSA maintains and enhances the safety, security, and effectiveness of the U.S. nuclear weapons stockpile without nuclear explosive testing; works to reduce the global danger from weapons of mass destruction; provides the U.S. Navy with safe and effective nuclear propulsion; and responds to nuclear and radiological emergencies in the U.S. and abroad.

## EM Operations strengthens disciplined ops through expanded continuing training

Recently, SRNS Environmental Management Operations (EMO) implemented an expanded continuing training (CT) plan that will strengthen disciplined operations and employees' knowledge of conduct of operations in the EMO facilities at SRS.

"A recent influx of new and inexperienced operators coupled with aging facilities could result in gaps in the areas of conduct of operations and facility knowledge," said DOE-Savannah River Nuclear Materials Manager Maxcine Maxted. "DOE recognized the need for continuing training, while also realizing that pulling people from their shifts to train would impact work being done in the facilities. We partnered with SRNS to identify ways to address training needs on off-shifts, which is a deviation from normal operations procedure. This ensures that employees are allowed

a chance to refresh themselves on procedures, facility processes and conduct of operations on a continuous basis."

EMO worked closely with the SRNS Training Department to coordinate and prepare training materials.

"This training will be taken by all operators, first line managers, shift technical engineers and shift operations managers working in the EMO facilities," said Janice Lawson, Deputy Vice President of EMO. "We appreciate DOE helping us address and resolve our challenges in these areas. SRNS is strong in nuclear operations experience and capability, and CT will help us continue to demonstrate excellence in the important work we do for our nation."





# 20 million safe hours

## SRNS employees mark a major milestone in safety excellence

SRNS employees ushered in the new year on Jan. 2, surpassing the 20 million safe work hour mark without a single injury resulting in a lost day of work.

This is the second time SRNS has passed the 20 million safe work hour mark since becoming the SRS management and operations contractor in 2008. The company record stands at 24.8 million.

“This safety achievement exemplifies the SRNS workforce’s commitment to safe operations at SRS,” said Stuart MacVean, SRNS President and CEO. “Safety is our way of life at the site, and our employees take great pride in achieving safety excellence.”

This milestone accounts for more than 680 days without a lost-time injury for the 5,680-person workforce.

“The 20 million safe hour milestone is remarkable, but it is built one day at a time. Ensuring our workers remain safe requires a

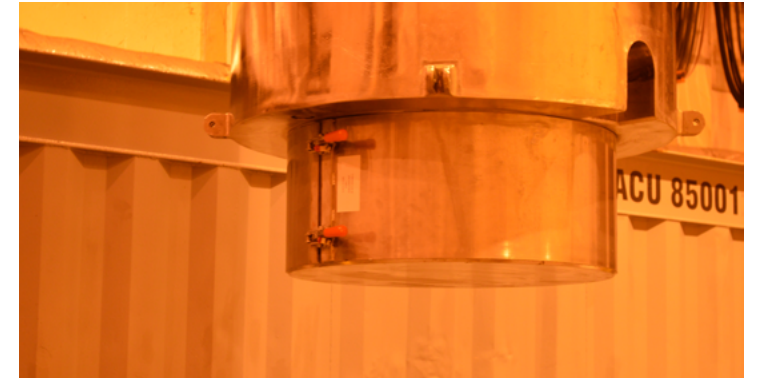
daily commitment by every member of our team. That commitment is the common thread that has united our diverse workforce for generations,” said Rick Sprague, SRNS Senior Vice President of Environment, Safety, Health and Quality.

SRNS employees are responsible for the environmental management of the 310-square-mile site, providing the nation’s supply of tritium, securing and operating large chemical manufacturing plants and transforming nuclear materials into assets and stable waste forms. Additionally, they are responsible for landlord services across the site, including some of the nation’s unique nuclear facilities.

Photo: SRNS workers prepare to safely package a can of downblended plutonium for shipment out of South Carolina.



The Adaptor Plate at the bottom of the Shielded Transfer System helps align the cask into the system.



This thin sheet of metal, designed by SRS Engineering, is attached with clamps to the bottom of the Legal Weight Truck Cask and keeps the adaptor plate from being lifted with the cask.

## Innovative thinking in L Area leads to efficient, cost-effective resolution of equipment issue

L Area Engineering at SRS recently used innovative thinking to cost-effectively and efficiently solve a problem with a piece of equipment in L Basin.

The shielded transfer system (STS) in L Basin is used for dry unloading of a certain type of spent fuel shipping casks called Legal Weight Truck, or LWT, casks. LWT casks are taller than other casks processed in L Basin; therefore, the basin water does not provide adequate shielding for personnel when processing an LWT cask. The STS provides a way to keep personnel shielded from spent nuclear fuel within the casks and provides criticality prevention during cask processing. A metal adaptor plate, found at the bottom of the STS drywell, is used to help align the cask properly for basket removal.

“In May of 2018, during STS cask processing, operators heard an unfamiliar noise,” explained L Area Spent Fuel Project Engineering Manager Stephanie Hudlow. “Upon investigation, the operators discovered that the adaptor plate had lifted with the cask and then fell back into the dry well. As there was no readily obvious reason that the plate should be lifting, Operations asked L Area Engineering to look into the issue.”

Engineers used multiple diagnostic tools to help identify the issue. As part of this diagnostic effort, a camera was placed into the bottom

of the STS to help identify the issue and discovered that a small indentation on the end of the cask was intermittently catching on a small post from the adaptor plate, causing the plate to be lifted with the cask.

Engineers then used 3D software modeling to further delineate the point of interference and to come up with a solution. They designed a thin sheet of metal closed with clamps that would fit along the bottom of the STS. Much like a spring form pan used in baking, this metal kept the cask indentation from catching on the adaptor plate post. The model was then used to validate the design and to ensure no additional interferences were created. Savannah River National Laboratory manufactured the piece.

“Since its installation, we have completed processing six casks with the STS and have seen no further issues with the adaptor plate,” Hudlow said.

“The Department of Energy appreciates the work of the L Area engineers for finding an inexpensive and operationally simple fix to the STS adaptor plate issue, and for implementing it while not impacting processing,” DOE-SR Nuclear Materials Manager Maxcine Maxted said.

## SRNS recognized for platinum sponsorship of Habitat for Humanity

SRNS was recently recognized by the Aiken County Habitat for Humanity as a Platinum Sponsor at the House 19 Dedication Ceremony. A Platinum Sponsor is any individual, group or organization that contributes over \$2,500 or more in donations to the construction of the house.

Chris Caldwell, SRNS Government and Community Relations Manager, attended the dedication to accept a plaque honoring SRNS for the support given to Habitat for Humanity. “SRNS employees built their first Habitat House in 2010, so it’s fulfilling to align our company giving with the programs where our employees are volunteering their time,” said Caldwell.

In the past 30 years, Aiken County Habitat for Humanity has built a total of 109 houses. SRNS has played a major role in these home dedications since 2010.

“The new homeowner and family received the keys to their new home, which would not be possible without the great support and generosity of our many donors like SRNS,” said Donald Evans, Aiken County Habitat for Humanity.

The Aiken County Habitat for Humanity advocates for community development by providing access to safe, affordable housing for underserved low-income families in Aiken County through education, construction and support services.





IT professional Brad Baker recently visited a Columbia County school during Computer Science Week to share his knowledge and experience. Greenbrier Middle School student Victoria Abell explains to Baker a computer coding project she developed.

# SRNS shares IT experience with middle schoolers

SRNS Information Technology (IT) professional Brad Baker recently visited computer science classes at Greenbrier Middle School in Evans, Ga., and, not surprisingly, the most sought-after information concerned video game programming.

SRNS IT professionals from SRS visited several middle schools during Computer Science Week within Georgia's Columbia County education system to share their knowledge and experience.

There was no lack of questions for Baker, an Army veteran whose IT experience also included years of military service translating and teaching Arabic.

Questions ranged from computer coding to seeking advice on how best to pursue a career in computer science.

"It's so important and vital for our students to hear directly from those who do this for a living," said Brandy Parker, computer

science teacher at Greenbrier. "It gives them the confidence to believe they really can do this and follow their passion."

Parker explained that this event also initiates a variety of related thoughts and ideas in the students' minds including future internships, making valuable contacts or even working within businesses and industries they have yet to consider.

"He gave us a lot of insight as to how we could choose a successful pathway if we were to go into coding, programming or software engineering," said Greenbrier Middle School student Colby Metcalf.

Baker stated that he was encouraged by the high level of interest exhibited throughout all the classes receiving his advice. "These kids are so smart. I had sixth graders asking me questions that I would normally have expected from high school students," said Baker. "There's so much potential here."

# Aiken Area Home Educators team walks away with Future City win for model city of tomorrow

Earthquakes, tornadoes and hurricanes damage public utilities within towns and cities throughout the world each year, severely disrupting every aspect of life. During this year's S.C. Regional Future City competition, middle school students from South Carolina and the greater Augusta, Ga. area, responded to this challenge by designing an electrical grid that could withstand and quickly recover from a natural disaster.

"Designing a city of the future is a difficult task for anyone, much less a middle school student," said Taylor Rice, SRNS Education Outreach. "Requiring an effective way to protect a city-wide electrical grid would be a significant task for those studying engineering in college. The Future City competitors used creativity, imagination and ingenuity to create resilient cities with connected systems and a robust infrastructure in place to limit damage and help the city quickly recover."

Each team of three students worked together to create their virtual city using SimCity™ software during the first phase of the competition. This was followed by a 1,500-word essay describing the city in detail, followed by actually building a table-top model using recycled materials.

First place honors went to "Urbe Grafito," Aiken Area Home Educators, with second place going to "Grelean City," St. Mary on the Hill Middle School, Augusta, Ga. "Rubalexia," Paul Knox Middle School, North Augusta, S.C., took third place.

SRNS Education Outreach personnel have managed the Future City competition for 16 years, in partnership with the Ruth Patrick Science Education Center at the University of South Carolina Aiken campus

This year's celebrity judges for the final round of competition included Bruce A. Easterson, SRNS Senior Vice President, Chief Engineer and Nuclear Safety Officer; Dennis Carr, SRNS Executive Vice President and Chief Operating Officer; and Rosalind Blocker, Executive Advisor to the Deputy Laboratory Director for Savannah River National Laboratory.



Students representing Aiken Area Home Educators attempt to persuade Future City competition judges that their model city deserves first place during the daylong event at the University of South Carolina Aiken. This team went on to win the regional competition, earning a trip to the finals in Washington, D.C.



## SRNS IT supports LEGO qualifying tournament

SRNS IT employees provided key coordination and operational support throughout the recent FIRST® LEGO® League Regional Qualifying Tournament.

Seventeen teams comprised of more than 190 students met at Chukker Creek Elementary School in Aiken, S.C., for the tournament. The theme was "Into Orbit," and focused on long-term space travel.

"It is great to see the generosity and willingness of our IT employees to volunteer for events outside of work," said tournament director and SRNS employee Tim Arnold. "With the contribution of \$1,500 from SRNS, we were able to continue our community outreach efforts and show support for STEM-based education."

Students in grades four through eight designed, built and programmed a LEGO Mindstorms robot, which included creating innovative solutions to improve the health and well-being of astronauts during extended space travel. Students then presented their solutions to a panel of judges, which was composed of SRNS IT employees.

The FIRST LEGO League focuses on solving real-world problems such as food safety, recycling, energy and more, using STEM concepts plus a big dose of fun. FIRST LEGO League is an alliance between FIRST and the LEGO Group.



INNOVATION • DEFENSE  
NONPROLIFERATION • ENVIRONMENT

# SRNS



**Savannah River Nuclear Solutions**

**We make the world**

**safer.**