

● FEBRUARY 2014

SAVANNAH RIVER NUCLEAR SOLUTIONS

# SRNS Today



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# Welcome

to the February 2014 edition of

# SRNS Today



**Dwayne Wilson**  
SRNS President and CEO

**Preparing the Savannah River Site for its ever-evolving role in our nation's national security, environmental stewardship and clean energy isn't a solo act. It takes people working in a concerted effort to lay foundations to build upon.**

In February, SRNS joined with the Department of Energy-Savannah River in signing a partnering agreement. The members of the Partnering Team include representatives from both DOE and SRNS. We're committed to delivering high-quality results in an ethical manner for the best interests of DOE and the nation's taxpayers. The agreement represents an evolution of the relationship between DOE and our company, and I'm excited to explore these new opportunities.

SRNS has hired the first class of Environmental Management nuclear production operators in more than 15 years. They're currently in training, and they'll be supporting existing and new missions at SRS. Seventeen of the 40 trainees are graduates of two local college programs created to support the growing need for expertise in nuclear production throughout the region. I'm pleased that so many of the trainees are local. It shows that our investment in the future of area educational institutions is paying off for both our company and for the local economy.

Although we are always aiming at the future, it never actually arrives. The future is always out there, a goal to be worked toward, an incentive to be pursued. The steps SRNS has taken in the past month propel us along the path to the future. Each step improves and enhances our company's working relationships with our employees and our partners in DOE.

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

## About 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 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)



**T**he U.S. Department of Energy (DOE) and Savannah River Nuclear Solutions (SRNS) recently made a commitment to the vision, mission and goals of the DOE-SRNS Partnering Agreement.

The Partnering Agreement, which will be renewed annually, focuses on doing what is best for the Savannah River Site (SRS) in terms of open, candid communication between DOE and SRNS.

On January 23, 2014, DOE-Savannah River (DOE-SR) Manager Dave Moody and SRNS President and CEO Dwayne Wilson signed the DOE-SRNS Partnering Agreement, committing to a collaboration that promotes open communication and effective, consistent coordination in order to accomplish the mission and vision of SRS.

The Partnering Team, which consists of 44 members from DOE and SRNS, also committed to delivering high-quality results in an ethical manner for the best interests of DOE and the nation's taxpayers.

The agreement also states that the team will conduct all activities in a manner that provides safety and security for the public, workers and the environment. The team also committed to working together to communicate as a unified voice for SRS, recognizing partnering and project successes, enhancing stakeholder relationships, and building public trust for nuclear operations.

Additional goals include team building and face-to-face meetings to improve trust and establish a partnering behavior model for the entire workforce and eliminating redundant and non-value added steps and processes in work environments.

The agreement also focuses on goals that improve the priority-setting process, promote both transparency and discipline in project management, and ensure operational changes are coordinated and agreed upon by all stakeholders at SRS.

Photo: SRNS President and CEO Dwayne Wilson (left) and DOE-SR Manager Dr. David Moody sign the Partnering Agreement.



# partners in progress

Safety, security, communication  
at the heart of DOE-SR and  
SRNS Partnering Agreement



**Touring SRS:** SRNS and the Department of Energy welcomed members of the Greater Aiken Chamber of Commerce and the Aiken-Edgefield Economic Development Partnership, who visited the Savannah River Site on Feb. 26. The groups heard overview presentations on SRNS, Savannah River National Laboratory and the Defense Waste Processing Facility, as well as other Site operations.





# a first class act

New operators-in-training in place to ensure support for SRS missions

The first class of Environmental Management nuclear production operators in more than 15 years has been hired by SRNS and is now in the process of training to support existing and new missions at SRS.

Seventeen of the 40 trainees are graduates of two local college programs created to support the growing need for expertise in nuclear production throughout the region.

“I believe the skills and knowledge obtained through the Radiation Protection Technology Program at Aiken Tech helped me get this job,” said SRNS Operator trainee and Aiken, S.C., resident Andrew Brown. “Savannah River Nuclear Solutions is putting a lot into this operator training program at SRS, and their approach to safety and conduct of operations is outstanding. I’m married with a four-month-old daughter, so I’m very happy to be employed here.”

“We are pleased that nearly all of these new employees are local,” said Mark Kokovich, SRNS Training Manager. “Most have family and roots here in the area. Our company is making a training investment in people who will stay and grow with us as SRNS continues to receive new missions and as we progressively lose employees through retirement.”

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Kokovich explained that nine trainees are graduates of the Nuclear Engineering Program recently established at Augusta Technical College, and eight are graduates of the Radiation Protection Program offered at Aiken Technical College. Both programs were specifically created to provide qualified job candidates for openings at SRS and commercial power reactors such as Plant Vogtle in Georgia and those operating in South Carolina.

“SRNS and Aiken Technical College have worked together over the years with the mutual goal of providing an education for area residents which equips and enables them to take advantage of the many skilled employment opportunities right here in the community,” said Dave Deal, Aiken Technical College Department Chair for Nuclear and Skilled Trades Programs. “When so many of our graduates are able to achieve that goal by becoming employees at SRNS, we see our mission being fulfilled. It is a win-win situation for everyone.”

Once fully trained, the new class of nuclear production operators will be filling roles in operating facilities across the Site and Savannah River National Laboratory.

Kokovich also noted that SRNS has plans to hire a class of new operators each year for several years to support growing SRNS programs and to fill a large void expected to be created in the near future as numerous SRS employees become eligible for retirement. “We want to create opportunities for years to come so our highly experienced employees can pass on process knowledge to the new operators, preserving operations-related information that otherwise would be lost.”

Photo: SRNS instructor Skip Johnson explains how a portable air monitoring unit functions to SRNS Operator trainee Natalie Lee.

## SRNL scientists working to make natural gas vehicles a reality

As part of his State of the Union Address, President Obama called for improved use of natural gas in transportation and industry. Scientists at the Department of Energy’s Savannah River National Laboratory (SRNL) are doing their part to help promote this effort.

Cars fueled by natural gas are not a new concept, but the challenge exists over finding a cost-effective, low pressure storage system that can be refueled at a gas pump, similar to today’s vehicles. Researchers at SRNL are investigating ways to remedy this problem. By working with a special material for use in gas storage tanks, scientists are using innovation to address concerns over both cost and safety.

Unlike today’s vehicles where a gas tank acts as a reservoir to hold liquid gasoline, natural gas is, as its name implies, a gas. Gasses take up much more room under normal conditions than liquids and thus must be stored at either high pressures or cold temperatures to reduce their volume. A material known as metal oxide framework can be used to help lower these pressures while minimizing volumes. “Current natural gas vehicles utilize either liquefied natural gas at temperatures below -260°F or compressed natural gas at pressures up to 3600 psi,” explained SRNL researcher Dr. Donald Anton. “The use of metal oxide framework material will allow the storage of the same amount of gas at 450 psi in a comparable volume. The lower operating pressure results in lighter, less expensive tanks.”

“A provisional patent has been granted for this unique design which uses both the heat generated from the internal combustion engine, as well as the cooling capacity of the air conditioning system to control the tank’s internal temperature. This should yield performance similar to a gasoline vehicle in both driving and refueling,” said Anton.

Researchers have also developed analytical models which accurately describe the temperatures and pressures within a typical natural gas tank during operation.







# lean on us

SRNS Continuous Improvement  
hosts CSRA Lean Alliance  
to share savings techniques

The SRNS Continuous Improvement (CI) Group hosted the CSRA Lean Alliance at the Applied Research Center on January 22 with 48 people in attendance. Dennis Donati, SRNS Senior Vice President for National Nuclear Security Administration Programs and Operations, presented an overview of SRS and welcomed representatives from eight local companies which included Carolina Cover Tech, AGY, Shaw, SCMEP, MAU, E-Z-Go, Aiken Technical College and Kimberly Clark.

Johnny Lott, H Canyon/Outside Facilities Radiological Protection Department Facility Manager, who donned full radiological personal protective equipment for the crowd, demonstrated the two IDEAS that received International Awards during the 2013 Ideas America Training Summit. Ernie Williams, the suggester, received a Silver level award in both the "Idea of the Year" and "Safety Idea of the Year" categories.

A brief overview and information about the Site's IDEAS Program was presented by Brenda Kelly, IDEAS Program Administrator. A variety of discussion topics included monthly promotions, program recognition, software, savings and the program's link to CI. An exhibit was manned to demonstrate one of the marketing techniques of the program.

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"It was wonderful to be able to share with the community what SRNS is doing to increase employee engagement and bring increased value to their customers."

Cynthia Boler-Melton

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SRNS showcased employee engagement and attendees were invited to learn more about specific Lean activities through "story board" displays and discussions with team members from the event. Events highlighted were forklift customization, chemical inventory management, fuel scheduling and critical rounds.

Through the IDEAS and Continuous Improvement Programs, SRNS achieved cost savings of \$49.5 million in efficiencies, cost avoidances, productivity improvements and hard dollar savings in fiscal year 2013.

According to Cynthia Boler-Melton, SRNS CI Manager, "It was a wonderful afternoon of community sharing and outreach which provided insight into some of the unique processes that take place at SRNS, often never experienced by non-SRS employees. It was wonderful to be able to share with the community what SRNS is doing to increase employee engagement and bring increased value to their customers."

Scott King, vice president for the Manufacturing Facilitation of the South Carolina Manufacturing Extension Partnership, stated, "We had an excellent event at SRNS. It was very beneficial to see how they tied safety awareness and responsibility into the event. Great job by the SRNS team."

Photo: Dennis Donati, SRNS Senior Vice President for National Nuclear Security Administration Programs and Operations, welcomes CSRA Lean Alliance attendees.

## Save the date for SRS Info Pods

Free event to focus  
on four SRS mission areas

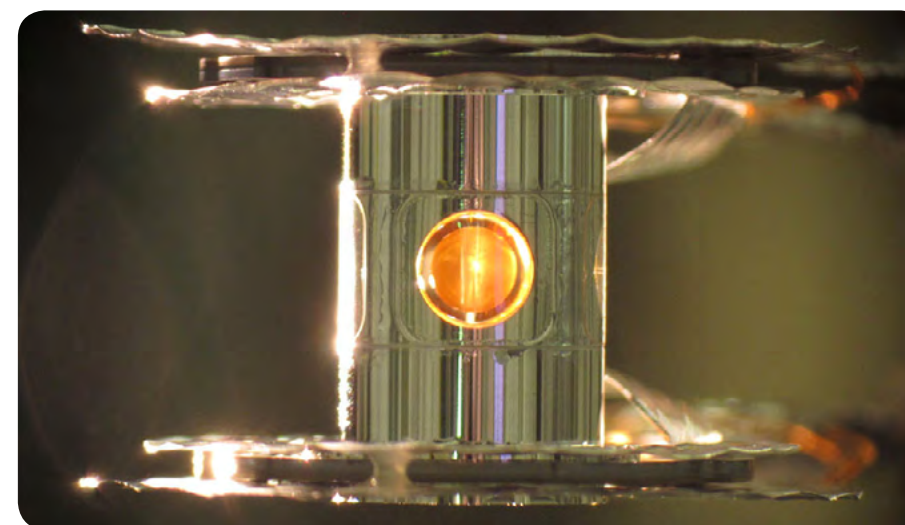
The public is invited to attend an SRS Information Pod session on Thursday, March 27, at the H. Odell Weeks Center on Whiskey Road, Aiken, SC.

Participants may select two of the following four presentations to attend:

Nuclear Materials Management	Environmental Monitoring and Restoration
Waste Management	Savannah River National Lab

Registration will begin at 5 p.m. on the day of the event and is on a first come, first served basis. Poster displays will also begin at 5 p.m., with presentations beginning at 6 p.m. and concluding by 8 p.m.

The event is free of charge.



A metallic case called a hohlraum holds the fuel capsule for NIF experiments. (Photo provided by Lawrence Livermore National Laboratory)

## SRS tritium supports National Ignition Facility achievement

The Savannah River Site is well-known for its mission of providing tritium for the nation's defense. In an example of support across the Department of Energy complex, however, tritium from SRS has also helped the National Ignition Facility (NIF) reach a key achievement in fusion science.

NIF, the world's largest and highest-energy laser system, is an essential experimental tool supporting the National Nuclear Security Administration. The facility, located at Lawrence Livermore National Laboratory (LLNL), is designed to focus laser energy on a tiny target, creating conditions similar to those that exist only in the cores of stars and giant planets and inside nuclear weapons. Its chief mission is to provide experimental insight and data for NNSA's science-based Stockpile Stewardship Program. Ignition physics and performance also play a key role in fundamental science, and for potential energy applications.

In experiments using a deuterium-tritium fuel, LLNL scientists at NIF achieved "fuel gains" greater than 1, meaning that the energy generated through fusion reactions exceeds the amount of energy deposited into the fusion fuel.

Though ignition remains the ultimate goal, the experiments at NIF mark the first time any facility has ever reached the achievement of fuel gains greater than 1: a key step in the quest for ignition. In a paper published in the Feb. 12 online issue of the journal Nature, LLNL scientists detail the series of experiments, which show an order of magnitude improvement in yield performance over past experiments.

In addition to the tritium support, Savannah River National Laboratory has provided the next generation of tritium shipping packaging to support the NIF. The Laboratory's expertise in specialized packaging for radioactive materials is in frequent demand from the DOE, NNSA and other federal agencies.





# SRNS. Trusted.

## For diligent environmental stewardship

For reducing the Savannah River Site's operational footprint  
by a remarkable 85 percent

For successful remediation of more than 5,000 cubic meters  
of legacy transuranic waste and its shipment out of South Carolina

For international leadership in the radiological cleanup  
of Japan's Fukushima Daiichi power plant



**Savannah River Nuclear Solutions.**  
**Trusted to get the big jobs done.**