FEBRUARY 2013

SAVANNAH RIVER NUCLEAR SOLUTIONS

SRNS Today

IN THIS ISSUE

Welcome

to the February 2013 edition of

SRNS Today

Dwayne Wilson
SRNS President and CEO

Opening doors and minds to the future. For Savannah River Nuclear Solutions, February was all about seeing possibilities and plans transformed into realities.

SRNS helped mark the opening of the new Engineering and Computer Science Complex at S.C. State University (see next page). Funded in part by Fluor (one of our parent companies) and SRNS Community Investment funds, the state-of-the-art facility will enable students to explore new ways of addressing our nation's challenges.

Savannah River National Laboratory was at the center of a research exchange in February with students and representatives from seven Historically Black Colleges and Universities. Interaction between SRNL scientists and students helps to open doors to possibilities that may play important roles in the future of our region and nation. Please see Page 4 for the story and photos. Also, I'm pleased to announce that SRNL is the recipient of two significant SunShot grant awards for the study of solar energy, and that one of our SRNL scientists has been named as U.S. Embassy Science Fellow to Japan, one of only two in the country. For more on these stories, please see Page 6.

At the Savannah River Site, the Savannah River Tritium Enterprise marked the opening of the Tritium Engineering Building, one of the cornerstones of the National Nuclear Security Administration's long-term plan to modernize and consolidate the SRS tritium facilities. Please see Page 5.

It's always exciting when plans become reality. I hope you enjoy reading about these steps into the future. As always, thank you for your interest in Savannah River Nuclear Solutions.

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About Savannah River Nuclear Solutions, LLC…

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. For additional information about SRNS,

Please visit our website at www.savannahrivernuclearsolutions.com.

Photo: SRNS President and CEO Dwayne Wilson and other dignitaries participated in a ribbon-cutting for two new facilities at S.C. State.

Fluor, SRNS help fund facilities at S.C. State aimed at preparing the workforce of the future

SRNS President and CEO Dwayne Wilson was the keynote speaker at the official opening of the new state-of-the art Engineering and Computer Science Complex at S.C. State University on Feb. 1.

The 86,500 square foot complex features innovative classrooms, research centers, laboratories, offices and other academic support spaces. During his address, Mr. Wilson emphasized the importance of preparing the next generation of the workforce with the technical skills needed to address the nation's most challenging issues.

The event included a tour of the new facility, where the Fluor Auditorium and the Savannah River Nuclear Solutions Center for Energy Studies were unveiled. The facility was partially funded by the Fluor Foundation and SRNS Community Investment funds.

Photo Top: SRNS President and CEO Dwayne Wilson with Dr. Walter Tobin, Chairman of the SCSU Board of Trustees

Photo above: Mr. Wilson addresses the attendees at the official opening of the Engineering and Computer Science Complex.

SRNL

Research exchange promotes networking between SRNL and Historically Black Colleges and Universities

Students and representatives from seven Historically Black Colleges and Universities (HBCUs) recently participated in a research exchange hosted by Savannah River National Laboratory, the DOE Office of Environmental Management's National Lab.

Held in February at the Center for Hydrogen Research near SRS, the day's events included a joint poster session featuring university research and SRNL research, and networking opportunities for the students, faculty and SRNL staff.

Two of the participating S.C. State University (SCSU) students—William Dumpson and Alejandra Chirino—participated in a research effort on gas chromotography and mass spectrometry, one of a number of projects funded in 2010 by a three-year DOE-EM grant to SCSU and eight other HBCUs.

S.C. State chemistry professor Dr. Joe Emily called the day's activities "a wonderful opportunity for our science students to get some exposure to a prestigious research institution in our own state."

SRNS Executive Vice President and SRNL Director Dr. Terry Michalske added that the event featured "tremendous science, and excellent discussions that are going on between our staff and the students. We are fortunate to have such an outstanding group of HBCUs in our region, and we want to take best advantage of that resource in building the future of SRNL. After today's event, I'm even more impressed by the quality of the students and the research being conducted, and I'm very optimistic about our future collaboration and partnerships with these institutions."

Photo top: South Carolina State University students William Dumpson and Alejandra Chirino with SRNS Executive Vice President and SRNL Director Dr. Terry Michalske

Photo left: Participants at the poster session

Savannah River Tritium Enterprise moves forward with modernization project

A ribbon-cutting in February at the Savannah River Site opened the door to the first of two new buildings the Savannah River Tritium Enterprise (SRTE) has scheduled for occupancy this year as part of its modernization program.

The Tritium Engineering Building is one of the cornerstones of the National Nuclear Security Administration's (NNSA) long-term plan to modernize and consolidate the SRS tritium facilities as part of its mission to turn a Cold War nuclear weapons complex into a 21st century nuclear security enterprise.

Addressing the crowd of employees gathered to witness the ribbon-cutting, NNSA Savannah River Site Office Manager Doug Dearolph credited the excellent partnership, teamwork and collaboration among NNSA, SRNS and construction contractor Akima Construction Services for completing the building with zero accidents and on budget.

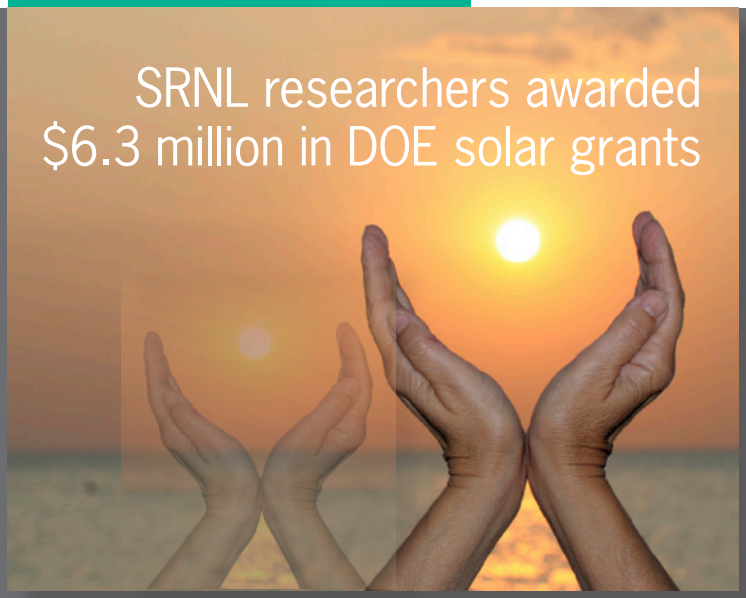
The new Tritium Engineering Building, which will provide office space for nearly 100 engineers, is the first building in the Tritium Limited Area that will meet the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings. The guiding principles cover: integrated design principles, optimized energy performance, water conservation, indoor environmental quality and reduced environmental impact of materials.

Construction of the Tritium Engineering Building was contracted to Akima Construction Services, a certified small business. In preparation for the company's first work at SRS, Akima opened an office in New Ellenton, near SRS, and selected several local businesses to assist on the project.

Photo, top: SRTE employees check out the new Tritium Engineering Building following the ribbon-cutting.

Photo, above: Opening the new Tritium Engineering Building are (from left) Janet Flowers (Akima Construction Services), Stan Maciaszek (SRNS), Don Baston (SRNS), Sarah Diaz-Martinez (NNSA Savannah River Site Office), Phil Douglas (SRNS), Dennis Donati (SRNS Senior Vice President for NNSA Operations & Programs), NNSA Savannah River Site Office Manager Doug Dearolph, Ryan Cox (NNSA SRSO), Roxanne Jump (NNSA SRSO Assistant Manager for Facilities and Projects), Akima Construction Services President Paul Karmanzinski, Stanley Pyram (NNSA SRSO), Fred Dohse (SRNS Executive Vice President and Chief Operating Officer), Sandy Harris and Bobby Coker.

SRNL researchers awarded $6.3 million in DOE solar grants



SRNL researchers have received two grant awards as part of the DOE SunShot Initiative, a collaborative national effort that aims to drive solar energy to be cost-competitive with other energy sources by 2020. The awards have a combined value of more than $6.3 million over a three-year period.

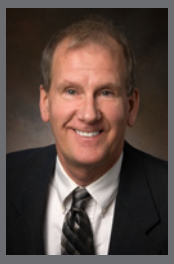
SunShot works to lower the cost of solar power from photovoltaics and Concentrating Solar Power (CSP) to achieve "grid parity" with other sources. SRNL's research will focus on improving CSP systems that use mirrors to focus sunlight onto receivers that heat a fluid used to generate electricity using a turbine.

"Both of these projects show how we apply our world-class materials expertise to meet new national challenges," said Dr. Terry Michalske, SRNS Executive Vice President and SRNL Director. "With the SunShot initiative, DOE has identified an ambitious and important goal, and it's exciting to be able to work with our partners on technologies that support our nation's energy security. This is another step that puts the Enterprise•SRS vision into action."

One of the projects is "Fundamental Corrosion Studies in High-Temperature Molten Salt Systems for Next Generation Concentrated Solar Power Systems." A multi-disciplinary SRNL-led team will investigate corrosion in heat transfer systems at temperatures needed to drive high efficiency power cycles. SRNL is partnered with the United Technologies Research Center of East Hartford, Conn., the University of South Carolina and the University of Alabama-Tuscaloosa. Principal SRNL researchers are Dr. Brenda Garcia-Diaz and Dr. Josh Gray. Other SRNL research team members include Dr. Luke Olson and Dr. Michael Martinez-Rodriguez.

The other project, "Low-Cost Metal Hydride Energy Storage for Concentrating Solar Power Systems," will screen promising metal hydride candidate materials, leading to the design, fabrication and evaluation of a prototype metal hydride energy storage system. SRNL is partnered with Curtin University of Perth, Australia. The SRNL research team is led by Dr. Ragaiy Zidan, Dr. Ted Motyka and Dr. Bruce Hardy.

SRNL researcher named as U.S. Embassy Science Fellow



Dr. Robert Sindelar

SRNL researcher Dr. Robert Sindelar has begun a two-month assignment in Japan as a U.S. Embassy Science Fellow.

Dr. Sindelar will be hosted by the Japan Ministry of Environment as part of the Japan-U.S. cooperation framework for decontamination efforts in the Fukushima region.

As an Embassy Science Fellow, he will provide technical expertise and suggestions to Japanese counterparts based on U.S. experience and collective SRS and SRNL expertise, and will interact with other scientists working in the field.

He has previously participated in a national laboratory expert team workshop with Japanese organizations to discuss high priority tasks for cleanup of the damaged Fukushima Daiichi plant, delivering presentations on relevant experience in water decontamination, corrosion control and leak repair technologies.

The Embassy Science Fellows program offers U.S. embassies an opportunity to host a working scientist for a one- to three- month stay. Begun in 2001 as a State Department–National Science Foundation partnership, the program places U.S. scientists at posts to provide expertise, advice and assistance with science and technology-related issues.

Black History Month Observance

SRNS President and CEO Dwayne Wilson provided the keynote address during the Savannah River Site's observance of the life of Dr. Martin Luther King, Jr., and Black History Month. Dr. David C. Moody, DOE-Savannah River Manager presented a plaque in appreciation of Mr. Wilson's participation.

Japan Atomic Energy Commission visits SRS

Savannah River National Laboratory researcher Dr. David Hobbs (right) discusses SRNL-developed waste management technology research with, from left, Dr. Yoshihiro Meguro and Tokuhiro Yamamoto of the Japan Atomic Energy Agency (JAEA), and Dr. Jeff Griffin, SRNL Associate Laboratory Director for Environmental Management.

A JAEA delegation visited SRNL, Oak Ridge National Laboratory and Pacific Northwest National Laboratory in January and February to discuss issues and strategies related to the remediation of Japan's tsunami-damaged Fukushima Daiichi nuclear power plant.

Area's future scientists and engineers show what they know in Science Bowl

Using a format similar to the television show "Jeopardy," America's next generation of scientists and engineers put their knowledge to the test at the University of South Carolina Aiken during the DOE National Science Bowl regional competition in February. High school teams from across South Carolina and the greater Augusta, Ga., area relied on their collective knowledge as they participated in one of the country's largest science tournaments.

The runner-up Lakeside High School team

This regional competition, managed by SRNS, hosted 120 high school students from 12 high schools. It is the only educational event and academic competition of its kind that tests students' knowledge in all areas of science and is sponsored by a federal agency.

According to SRNS Education Outreach Manager Candice Dermody, this is not an easy competition, and it really tests the student's science and mathematics skills under pressure. "You could feel the tension in the air," said Dermody. "These students are always intensely committed to winning it all for their school and teammates."

Last year's regional champion Lakeside High School, Evans, Ga., returned this year in an attempt to defend their title against a strong field of teams primarily from the Aiken, Columbia and Augusta areas, but were bested by Dorman High School from Spartanburg County.

Lakeside finished second and Evans High School was third.

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