D Ash Update
SRNS uses new barrier technology as Phase 2 of project begins

This month
Don Orth award and memorial • NNSA awards • Toys for Tots • Public Tours schedule
Welcome to the December 2017 edition of SRNS Today

Things tend to slow down during December with everyone feeling the anticipation of the holiday. However, this isn’t the case at Savannah River Nuclear Solutions. We have had an exciting and productive December, which was also marked by staying safe during this distracting time.

SRNS is making tremendous strides toward the completion the D Ash Basin project. We are beginning Phase 2, which is the single largest portion of this cleanup effort. We are also using new advanced protective barrier technology to accelerate the schedule, lower the cost and make the barrier more effective in eliminating erosion and other potential issues.

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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 803-352-5584 or visit our website: www.savannahrivernuclearsolutions.com.

SRNS uses new barrier technology as Phase 2 begins

The cleanup of SRS legacy coal ash has kicked into high gear, as SRNS began incorporating new barrier technology at the start of the larger second phase of the project after the successful completion of the initial phase of the effort earlier this fall.

While SRNS now uses a more environmentally-friendly biomass plant to generate power and steam, for decades the site’s electricity came from the huge, coal-fired D Area powerhouse, resulting in hundreds of thousands of cubic yards of residual ash.

The first phase of the D Ash Basin project successfully consolidated more than 90,000 cubic yards of ash and dirt onto an existing SRS ash landfill directly adjacent to the excavation site, resulting in a highly protected mound of relocation material about 14 acres in size.

The second phase, which is the single largest portion of this cleanup effort, will consolidate 335,000 cubic yards of ash, coal fines (particle size usually less than one-sixteenth inch) and contaminated soil into the second mound. Like the first mound, it will also be fully capped with geosynthetic material and a thick earthen cover consisting of fill dirt and grass-covered topsoil.

SRNS is incorporating new advanced protective barrier technology into the second phase, which will accelerate the schedule, lower the cost and make the barrier more effective. “We’re pleased with our progress to date; however, consolidating all the ash into two large mounds is only as good as the method used to protect them,” said SRNS Project Manager Susan Bell. “That’s why we’re using the higher quality, most technologically advanced techniques and materials to ensure this is the case at SRS.”

Bell explained that SRNS, working with their primary sub-contractor, has identified a new, protective barrier made of highly durable plastic sheets covered with a unique geotextile material. This material permits rainwater to pass through to the plastic layer where the water runs off within numerous small channels, while preventing soil and sod from sifting through and clogging these drainage channels.

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"This new geosynthetic plastic-based system ensures rainwater runs off a mound, eliminating erosion and other potential issues,” said Bell. “In addition, the new product can be installed faster and at a lower cost.”

The innovations will ensure the project will be completed significantly ahead of schedule, while saving more than $300,000. By the conclusion of the second phase, 1.8 million square feet of geosynthetic material covering approximately 41 acres will have been installed.

At the completion of the project, approximately 90 million gallons of water will be removed from the original basins and more than 400,000 cubic yards of ash excavated or consolidated. Over 90 acres of federal property will have been safely and cost-effectively remediated protecting the environment.

The SRS D Ash Basin project is a result of a closure plan developed and approved by a core team consisting of members of DOE-Savannah River, SRNS and state and federal environmental regulatory agencies.
Two simulators, no waiting

Newly-hired SRTE control room operators get hands-on training

When new Savannah River Tritium Enterprise (SRTE) operators are hired, they’re eager to get started. After all, these are great jobs, with rewarding work serving an important national need supporting the nation’s nuclear deterrent.

SRTE has been hiring new operators to meet current and future needs, and has plans to hire more in the coming year. Some of these new hires will follow a path that leads to becoming control room operators. Once they report to work, there is considerable training on their new responsibilities (with additional training for the prospective control room operators), plus the all-important security clearances to be obtained, before they become fully qualified.

Now, with the addition of a new, unclassified, simulator, SRTE’s prospective Tritium Extraction Facility (TEF) control room operators can begin hands-on training while they are waiting for the sometimes-lengthy security clearance process to be completed. That work can shorten the time to full qualification by as much as 14 months. The simulator allows them to practice the tasks that they will be carrying out—tasks that require precision and strict compliance with procedures—and supplements the classified simulator already in use.

About 95 percent of the training needed by new TEF control room operators is unclassified. The current training simulator, however, also serves other needs, including classified training for other SRTE facilities, preparation for Readiness Assessments, and emergency preparedness scenarios. Not only does that prohibit its use by unclassified employees, it also means that demand for it is high. The addition of the unclassified simulator not only allows new TEF employees to progress faster, it frees up time on the original simulator for its other purposes.

"Qualifying new Control Room Operators is a top priority for our training program. The addition of the new unclassified simulator enables multiple pipeline classes to be run concurrently to meet the needs of the facilities," said trainee Zachary Jones.

"Qualifying new Control Room Operators is a top priority for our training program," says Jason Whitson, manager of SRTE Training, Procedures, and Emergency Preparedness. "The addition of the new unclassified simulator enables multiple pipeline classes to be run concurrently to meet the needs of the facilities. The simulated environment provides a great opportunity to practice and enforce strong Conduct of Operations principles while challenging the students with complex scenarios. Long-term benefits include the use of the simulator to support continuing training, recertification, performance demonstrations and full shift compliment training."

NNSA honors SRS teams

Awards underscore employees’ technical expertise, commitment

Seven teams of SRNS employees received awards from the National Nuclear Security Administration (NNSA), recognizing their achievements in support of national security missions. At a ceremony this month, NNSA Savannah River Field Office Manager Nicole Nelson-Jean presented two groups of awards: the Defense Programs (DP) Awards of Excellence, which honor significant achievements in support of the U.S. nuclear weapons program, and the NNSA Office of Safety, Infrastructure & Operations (NA-50) Awards of Excellence, which honor exceptional accomplishments in support of NA-50 and its efforts on behalf of NNSA’s missions.

The 59 employees honored included personnel from the SRNS organization that provides tritium and related products/services for the nation’s nuclear stockpile, as well as organizations focused on the handling of spent fuel, and SRNL. Three of the awards went to teams made up of a combination of SRNS employees and federal DOE or NNSA personnel.

"The nation counts on us to carry out important work in support of the nation’s security," said Wallis Spangler, SRNS Senior Vice President – NNSA Operations and Programs. "Seeing our employees honored for the excellent way in which they carry out these vital missions makes me extremely proud to be associated with them."

"As a laboratory, we are dedicated to delivering practical, cost-effective solutions that ensure a safe, robust and reliable nuclear deterrent for the nation," said Dr. Terry A. Michalske, SRNS Executive Vice President, and Director, SRNL. "These awards underscore both the technical expertise of our staff and their commitment to protecting our nation through innovative science and engineering."

One of the DP Award winning teams was singled out for Exceptional Achievement, a designation reserved for those efforts that significantly exceed expectations. That team, the Hydrogen/Deuterium System Integration Testing team, successfully processed and function tested hardware in support of the final design review of a new gas transfer system, meeting a compressed schedule. Also receiving the DP Award was the HL616 Weapons Information System Upgrade Team, which conceived, developed and implemented a simple but effective method, using an existing data management system, to fulfill the requirement to routinely upload shipping data into an NNSA Headquarters database. In addition, two SRNL employees received the award for their support of NNSA’s stockpile surveillance program, as part of a group of people from across the SRNS nominated by NNSA’s Office of Nuclear Weapon Stockpile.

NA-50 Awards of Excellence were presented to four teams, including: SRNL’s team responsible for a modified material handling of spent fuel, and SRNL. Three of the awards went to teams made up of a combination of SRNS employees and federal DOE or NNSA personnel.

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Ready to roll

Sign up now for 2018 SRS Public Tours

Registration is now open for the SRS 2018 public tour program. More than 1,000 seats are available during 22 tours to be held throughout the year. The program is managed by SRNS for the DOE-Savannah River Operations Office.

Four historic tours (hosted in partnership with the SRS Cold War Historic Preservation Group) will be offered again this year featuring the former town of Ellenton, C Reactor and the SRS Curation Facility.

Also, 2018 brings the addition of several early morning tours. Participants should check times carefully prior to signing up for a tour.

“We want to ensure that local citizens, newcomers and visitors to the area are fully informed about the missions and current activities at SRS,” said Elizabeth Harm, SRNS Tour Program Coordinator. “Participating in a public tour provides the perfect opportunity to see the incredible work being accomplished here.”

During the tours, participants travel on large and comfortable commercial buses. The tours provide the public with an opportunity to see many of the historic and operational facilities at SRS that were responsible for the production of plutonium and tritium during the Cold War with the Soviet Union. Tour participants also learn about the site’s current activities and future missions.

The public tours conclude at the Savannah River Ecology Laboratory where participants can learn about the lab and see some of the animals indigenous to SRS. The historic tours conclude at the SRS Curation Facility.

Each tour starts at the Aiken County Applied Research Center, located off Highway 278, near New Ellenton and is free to members of the public.

To register, visit www.srs.gov/general/tour/public.htm. If you have difficulty registering online, or to register large groups, please call (803) 952-8944.

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Rudisill named Orth Award winner

Memorial at Savannah River Research Campus honors Dr. Orth

Each year, the Savannah River National Laboratory honors one of its most influential researchers, Dr. Donald A. Orth, by presenting the Donald Orth Lifetime Achievement Award to an employee for technical excellence and leadership.

SRNL presented this year’s Orth Award to Tracy S. Rudisill, a principal investigator in the laboratory’s Separations and Actinide Science Group, leading a team developing chemical engineering flowsheets for the dissolution of spent nuclear fuels and other nuclear materials.

“Tracy is a world-renowned expert in actinide materials who time and again has demonstrated how he can provide practical solutions to some of our nation’s most difficult and pressing problems,” said Dr. Terry A. Michalske, SRNL director. “He is personally involved in many national and international programs but always makes it a priority to mentor and help develop the next generation of scientists and engineers.”

Rudisill has worked for SRNL for more than 30 years, conducting research and development for uranium, neptunium, plutonium, americium, and curium processing. His accomplishments include developing chemical engineering flowsheets for plutonium metal finishing, scrap recovery, dissolution of plutonium materials and the recovery of enriched uranium from reactor research fuels. He also developed processes to save valuable americum and curium isotopes, which are used in the manufacturing of californium-252, a neutron emitter for radiotherapy and other applications, from disposal as waste.

“Dr. Orth was an exceptional researcher,” said Rudisill. “When I was a new employee, like many others, I went to Don to talk about a new project I was starting. Now at this point in my career, I find myself in much the same position, advising and mentoring many of our new employees. His impact on the laboratory and SRS is continuous.”

The Orth Family and Dr. Michalske celebrated Dr. Orth’s contributions to SRS by dedicating a living memorial in his honor. Located on the grounds of the Savannah River Research Campus, the memorial includes a live oak tree and a bench. Dr. Orth passed away in April this year.

Dr. Orth began work at SRS in 1951 with the DuPont Atomic Energy Division. His primary contributions to SRS included being a technical liaison for many DOE programs moving from concepts through operating facilities. His work included the development, design, and operation of processes and facilities for nuclear materials production, specifically, plutonium finishing operations. Dr. Orth’s work in this area led to a technical liaison and support assignment for later SRS programs in plutonium fuels, californium, and other transplutonium elements, promethium-147 and thorium, offshore fuels processing, waste management, plutonium isotope separations, naval fuels and tritium operations. He was also appointed to the DuPont corporate technical position of Departmental Fellow and subsequently as Consulting Scientist by Westinghouse Savannah River Corporation, where he worked to improve company research efforts. Dr. Orth retired in 1992 after a distinguished 41-year career at SRS.

The Orth Award celebrates the accomplishments of one of the laboratory’s most influential researchers, Dr. Donald A. Orth, who retired in 1992 after a distinguished 41-year career at SRS. Dr. Orth’s contributions included leading teams in nuclear materials production, specifically, plutonium finishing operations. His work included the development, design, and operation of processes and facilities for nuclear materials production, specifically, plutonium finishing operations. Dr. Orth’s work in this area led to a technical liaison and support assignment for later SRS programs in plutonium fuels, californium, and other transplutonium elements, promethium-147 and thorium, offshore fuels processing, waste management, plutonium isotope separations, naval fuels and tritium operations. He was also appointed to the DuPont corporate technical position of Departmental Fellow and subsequently as Consulting Scientist by Westinghouse Savannah River Corporation, where he worked to improve company research efforts. Dr. Orth retired in 1992 after a distinguished 41-year career at SRS.
The day was cold and rainy, but the weather didn’t dampen the spirits of dozens of SRS employees loading more than 10,000 toys and bicycles onto trucks destined for the local Toys for Tots campaign.

Since the SRS program began in 1991, SRS employees have collected over 385,000 toys for area children. Partnering with the Marine Corps Reserve’s Toys for Tots and the Salvation Army’s Angel Tree program has been an important tradition supported by the largest contractor companies at SRS.

“Participating in this campaign each year is part of what makes the Christmas season special,” said SRS Toys for Tots Chairperson and SRS employee Natalia Johnson. “The generosity of our employees continues to amaze me. They contributed more than 10,000 toys this year alone and more than $17,500 in donations for gifts.”

SRS, Savannah River Remediation (SRR) and Centerra also provide corporate monetary gifts to further add to the success of each year’s toy drive.

“It’s inspiring to arrive and see several truckloads of toys and bikes set out for display, row after row,” said Staff Sergeant Gregory Allen, U.S. Marine Corps. “I’ve been involved with Toys for Tots for more than 30 years and this level of giving is nearly unheard of. And, it’s all highly organized as well.”

For the seventeenth year, employees also sponsored the Salvation Army’s Angel Tree program, enabling SRS employees to adopt 400 area children, giving toys and clothing items specifically to Angel Tree recipients.

Johnson noted that the numerous gifts provided by SRS employees are exceptional in quality as well. “As my eyes scan over all these toys, again and again I stop and focus on fairly expensive items. In addition, about 350 bicycles and tricycles have been donated for this worthy cause. There will be a lot of children on Christmas Day who will be absolutely thrilled with each package they open from SRS,” she said.

The annual event is managed by SRNS and supported by the DOE-Savannah River, NNSA-Savannah River, SRR, Centerra, Augusta, Building Trades and Parsons. These companies and employees contribute in a variety of ways, from donating toys to making monetary contributions.

At the close of each year’s SRS Toys for Tots celebration, trucks full of presents leave the site in parade formation led by Santa Claus heading for multiple Salvation Army locations where the gifts will be sorted. Aiken Marines then distribute the gifts to children in Aiken, Allendale, Barnwell and Edgefield counties, as well as the towns of North Augusta, Beech Island, Belvedere, William, Salley and Couchton. The Marines from Augusta supply toys to Burke, Columbia, Glascock, Hancock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Tattono, Warren, Washington and Wilkes counties and the town of Wrens.

The days after Thanksgiving can often be centered around holiday shopping. Following this time of “getting,” SRNS Aspiring Mid-Career Professionals (AMP) celebrated #GivingTuesday, a global day of giving back to kick off the giving season. The “Living an #UNSelfie Life” event gave AMP members the opportunity to network with others and participate in a holiday-themed photo booth while donating over 100 toys for the SRS Toys for Tots campaign.

“Giving Tuesday allows us to pause from our hectic everyday lives and give back to the community any way we choose. For AMP, it was to encourage our members to engage with the site tradition of the Toys for Tots campaign, with the idea in mind that every child deserves a gift this holiday season,” said Natalia Johnson, SRS Toys for Tots Chair and AMP Professional Development Co-Chair. AMP serves SRNS full-time employees who have between seven and 20 years of work experience.

Pictured at the event were (first row, from left) Caroline Reppert, Tiffany Hah说 and Lakenh Windham; (second row, from left) Susan Murphy, Josh Montgomery, Lindsey MorBarren, Gregory Allen of the U.S. Marine Corps League; Scott Pardue, Susie Ferrara and Elizabeth Reinder; and (third row, from left) Jesse Runley, Kristin Hauer, Ben Hams, Elizabeth Hams, Rachael Simon, Nicole Moore and Blaker McPhail.
From the recent graduate who just started working last week to the president and CEO, everyone is faced with career-altering decisions. How to recognize and confront these opportunities head-on was one of the many topics discussed at the 2017 LEAP (Leaders Emerging Among Professionals) Conference, themed “Facing the Future Together.”

During the event, Michael K. Lempke, President, Nuclear and Environmental Group, HII Technical Solutions Division, gave a keynote address in which he shared his philosophy on making hard decisions, knowing personal limitations and focusing on what’s critical at a specific time.

First, Lempke reflected on experiences from growing up in the town of Bullhead City, Ariz., and then incorporated other personal elements into his talk, which centered around photos of iconic Western actors in his office and what they represent to him. The first photo was of John Wayne, representing Lempke’s favorite quote by the actor which states, “Courage is being scared to death and saddling up anyway.”

The second photo Lempke keeps in his office is of Clint Eastwood, who is famous for saying, “a man’s got to know his limitations.” “We all have limitations without a doubt, so own them. Build teams to purposefully compensate for them, and always remember you didn’t get here by yourself, and you’re not going to get much further alone,” Lempke added.

Lastly, the third photo of Ronald Reagan emphasizes the importance of narrowing your focus. “I believe that we can be more, achieve more and go farther than we think we can. To quote Reagan: ‘There are no great limits to growth because there are no limits of human intelligence, imagination and wonder.’ Keep that in mind as you’re facing the future together. What you do at this site has a tremendous impact not just for national security but for global stability and will echo for generations to come,” Lempke concluded.

Following the keynote address was a panel discussion with managers from different areas at SRNS. The five panelists included Jim Barry, SRNS Senior Vice President and CFO; Dr. Brenda Garcia-Diaz, SRNL Energy Materials Group Manager; Cynthia Bolon-Melton; Enterprise System Solutions Director; Rick Burns, H Canyon Facility Manager; and Rod Rabon, Chief Engineer, Site Infrastructure Engineering.

The SRS Fire Department (SRFD) runs full throttle, responding to an average of 47 calls per month. SRFD personnel must be on point for any situation or environment, so expecting their fleet to perform at its highest level goes unsaid.

Predictive maintenance is key in planning future replacements for the SRFD fleet. Since all emergency response vehicles are considered “motor vehicle,” appropriations are required to fund the purchase. A DOE “Vehicle Statement” must be completed and submitted two years in advance before the appropriations may be approved and distributed. Major plans for fleet replenishment, supported by the Portable Equipment Commodity Management Center (PECMC) Replenishment Plan, began with two new fire engines in 2012, followed by four ambulance remounts completed in 2016, and then by a new fire engine purchased in 2017. A new vehicle will be purchased each year through 2022: Fire engine in 2018, ladder truck in 2019, fire engine in 2020, rescue truck in 2021 and hazardous material vehicle in 2022.

Once the engine arrives at SRS, the real work begins. “Not only does it take time to stock the engine with our equipment, but there are procedures that must be developed to accompany each piece,” said firefighter and paramedic Joey Dunkle. “It can take us anywhere from one month to 45 days between arrival of the vehicle to when it’s ready to roll out as part of the fleet.”

All fire engines are custom built, which means unlike automobiles that are built on an assembly line by mainly robotics, emergency vehicles are built piecemeal in a shop by a team. This may lead to issues early on.

“We always expect a lot of issues the first year the vehicle is in service,” said Brandon Heath, a PECMEC mechanic. “We refer to it as ‘getting all the kinks out.’ But our main goal is to keep all the fleet in service, and when a vehicle is out of service, or OOS, it is captured daily and covered every morning during our turnover meeting. That motivational push we get when a vehicle is OOS lets us know we are a key piece in the company. The Fire and Rescue service depends on us to ensure they can arrive safely to a scene and perform their roles without impairments.”

SRS Fire Department attends to the details of vehicle readiness
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We make the world safer.
Environmental stewardship
Supplying tritium
Securing and transforming nuclear materials

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