



Farewell from Mike Johnson, Executive Director



As you read this, I will have departed CNTA for our retirement home in New Mexico, taking along many fond memories of our times in Aiken and engagement with CNTA members. I wanted to leave behind a few thoughts about my one ear tenure with the organization, so here goes:

There have been many positives over the past year:

- We've enjoyed a nice growth in membership, and I'm pleased at the senior leadership of the Site LLCs for supporting us so much.
- A number of parent corporations for local site LLCs have joined CNTA, demonstrating their commitment to Aiken and SRS.
- Early Career Professionals from across SRS have become increasingly active in CNTA, and their ideas have been energizing.
- Attendance at Up & Atom Breakfasts has been outstanding, and I look for that to continue into the future.

As always from a confirmed nuclear operator like me, you'll also have to read a few areas for improvement:

- We're still not quite there in terms of **active** members, and the focus here must remain.
- While we have an outstanding group of volunteers for our events, I believe it's time for the volunteer pool to expand, and we give the opportunity for more members to experience the personal growth that comes from the volunteer experience.
- Although most all corporate parents are members of CNTA, we still have a few to go.
- CNTA needs to take a more outspoken position in print media (a personal shortcoming), and I hope that both my successor and our members will do that.

I have greatly enjoyed the old friendships I've been able to renew, and the new friendships I've made. I've been particularly pleased to see the quality and enthusiasm of our early career professionals: they have given me great confidence in the future of our industry.

The list of those to whom I owe tremendous thanks is long, but I'll mention only a couple:

- The Board of Directors and the Executive Committee have been steadfast in their support as I took perhaps some "different" directions for CNTA.
- Patti Swanson remains the "heart" of CNTA, and her dedication to organizing our events and taking care of the extended CNTA family is without equal. CNTA could not be where it is today without her enthusiasm and purposeful efforts.

With that, a fond farewell to you all, and best wishes for the future of CNTA. I look to hear great things in the future. Of course, if any of your paths take you through Santa Fe, I'm but an email away and would enjoy seeing you. **Thank you all, friends and colleagues!**



Retired Savannah River Site inventor wins national robotics award (recognizing a CNTA volunteer)

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Because nuclear material processes aren't something you want to handle bare-handed or up close and personal, inventors and engineering minds had to create safety systems to operate remotely.

For his contributions to the robotics industry, Aiken resident Frank Heckendorn was recently recognized by the American Nuclear Society with the Ray Goertz award at its meeting earlier this month in Pittsburgh.

The award is named after Raymond Goertz, a pioneer in remotely operated robotics, or telerobotics. Goertz worked at the Department of Energy's Argonne National Laboratory and helped build technology to handle radioactive material.

Heckendorn called Goertz an inspiration and the grandfather of telerobotics.

"The award is meaningful to me because it's named after him," Heckendorn said.

Heckendorn began his career in the textile industry developing remotely controlled systems to reduce workers' exposure to potentially dangerous chemicals.

He said, "It's fun working with equipment, it's enjoyable, but I have always had that thing about doing something useful for people. To not just build something to have something, just to have something to show for it, but to build something useful."

Many of his creations were put to use in the U.S. Energy Department's national nuclear complex, including facilities at

the Hanford Site in Washington state and Aiken's Savannah River Site.

From his efforts, Heckendorn earned four U.S. patents for his inventions. One allowed inspection of piping with location determination capabilities and others gave workers remote access to constrained space or allowed remote collection and movement of potentially dangerous material.

"The crawlers are controlled by cameras in spaces where a body has no business going but where we need information from," he said. "The idea is to reduce hazards and keep the worker away from the nasty stuff."

Heckendorn also was instrumental in developing remote operations equipment for processes at the Defense Waste Processing Facility and the radiation hardened camera used in the operations space.

After his 27 years at Savannah River Site, Heckendorn joined ITER, an international project to build an experimental fusion reactor. He worked in both France and Japan to develop remote viewing and operational equipment specific to the fusion projects needs and design.

Heckendorn's desire to do things for people extends beyond the nuclear realm and into the community.

He said, "I am always looking for ways to help other people."

For Heckendorn, that means volunteering with organizations around Aiken. He said he works helping refurbish houses and helps to fix area facilities through a church group with St. John's United Methodist Church. His

neighborhood repair record dates back to 1989 when he was a volunteer for Aiken's Habitat for Humanity. Heckendorn worked on both the organization's first house and house No. 100, which was completed earlier this year.

Developments and creations built by Heckendorn are used in numerous countries and capacities around the world. Aside from the nuclear applications, some of his remote viewing and operating systems have been employed in potentially dangerous or Homeland Security scenarios. As for his future, Heckendorn said he is enjoying retirement.

Thomas Gardiner covers energy, science and technology for the Aiken Standard.



Submitted Photo Frank Heckendorn, right, receives the Ray Goertz award from an American Nuclear Society representative at its meeting in Pittsburgh in early August.

CNTA Education Committee update

The CNTA Executive Committee has approved two new educational activities as recommended by the Education Committee. These include a high school video contest and a Gold Sponsorship of the Science Education Enrichment Day (S.E.E.D.) at USCA.

The video contest for high school students (grades 9-12) will be launched at the Career Connections Day during Nuclear Science Week. The submission deadline will be January 27, 2017. Submittals must be 2-5 minutes videos

with the theme to “bust a nuclear myth”. Marissa Reigel (SRNL) and Nora Swanson (GA Power), with assistance from Dr. Susan Wood, will oversee the contest. The winning teams will be recognized with certificates while the school will receive a GoPro (small recording device) for use in future student projects. The contest will coincide with the high school essay contest, which has been conducted for several years.

CNTA will be a Gold sponsor of the S.E.E.D. event on October 1. As part of

the sponsorship, CNTA will have an exhibit describing the ongoing educational activities including the teacher workshop program featuring hands-on activities for classroom use, the 3-day Southeastern Summer Nuclear Institute (SSNI), and nuclear workforce needs for the future. Last year, S.E.E.D. was attended by more than 3,600 students, parents, teachers, and others and featured some 70 exhibits. The event should provide excellent contacts to enhance CNTA’s educational programs.

SRNL facility gets makeover with powerful new neutron-generation capability

A portion of Savannah River National Laboratory that has been unused for more than two decades has been cleaned out, renovated, and is now the home for the lab’s new thermal neutron source, which started operations in late June.

The first-of-a-kind neutron source replaces an aging facility at the lab that uses a Californium source which, because of its radioactive half-life, is beginning to see its effectiveness limited later this summer.

The thermal neutron source, more than three times more powerful than the existing capability, will be used to provide continuing analysis for corrosion control and other support to the National Nuclear Security Administration’s (NNSA’s) tritium mission, which the Savannah River Site carries out in support of the nation’s nuclear defense. It will also support the Site’s radiochemistry program.

“It’s always exciting to expand the lab’s capabilities, but even more so when we are able to repurpose under-utilized facilities,” SRNL Director Terry Michalske said. “The new thermal neutron source will be a resource not just to the Savannah River Site, but eventually to the entire Department of Energy

complex.”

The diminishing capabilities of the existing neutron-generation facility have been known for some time, and beginning in 2010, SRNL made a series of equipment modifications and procedural changes that allowed the existing capability to extend through the summer of 2016.

The project to replace the neutron-generation capability came with a \$3 million price tag for design, equipment, installation, shielding and support infrastructure, and ahead of a milestone to have the facility up and running by the end of June.

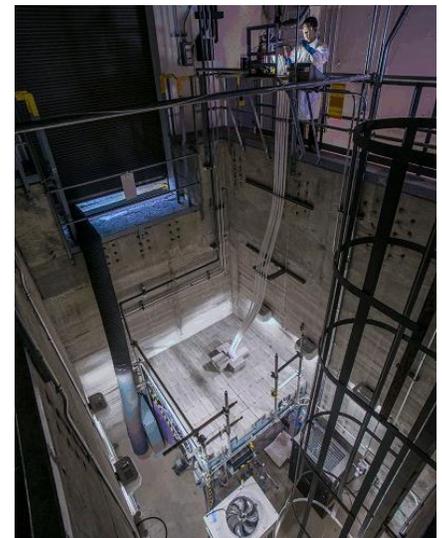
The new thermal neutron source, built by Adelphi Technologies, was installed in a portion of SRNL that was used for testing and demonstrating analytical equipment for the H-Canyon facility in the early 1990s. The non-radioactive facility had legacy materials that needed to be dealt with, including residual nitric acid solution in a 60-gallon tank and ancillary piping, before the source could be installed.

“It was like coming back to your garage and opening it back up after 25 years,” said SRNL Analytical Development Director Mark Barnes. “There was quite a

bit we needed to clean out, but the facility itself was well-suited for the new mission.”

While the primary reason for replacing the neutron source is to serve the NNSA missions at the Savannah River Site, the new source potentially has additional applicability that will likely see interest from other DOE sites and academia.

“This is the first facility of its kind, and we’re able to take on much more extensive and complex experiments,” said David DiPrete, an advisory scientist on the project. “Down the road, we expect to



Savannah River Remediation Begins Using Salt Solution Receipt Tank

One of the two newly constructed Salt Solution Receipt Tanks (SSRTs) at the Savannah River Site (SRS) began receiving waste earlier this month.

Savannah River Remediation (SRR), the liquid waste contractor at the U.S. Department of Energy's (DOE) SRS, began transferring Decontaminated Salt Solution (DSS) to one of the two 60,000-gallon SSRTs.

The new SSRTs are designed to improve SRR's salt disposition process and prepare the Site's liquid waste program for the Salt Waste Processing Facility (SWPF), which is currently undergoing testing.

One SSRT is being used. The other SSRT is not needed until SWPF operations begin, scheduled for late 2018, so it will be isolated and maintained until it is needed. Both tanks have passed rigorous inspections.

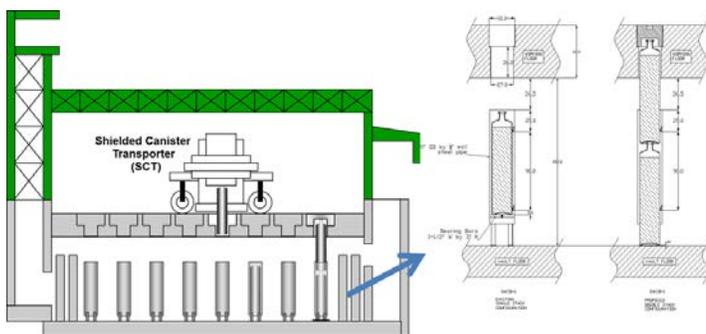
DOE-Savannah River Manager Jack Craig said the SSRTs are another key step in preparing for the operation of SWPF.

"There are many steps we have to take to ensure we are ready for SWPF start-up," Craig said. "These receipt tanks are unique and will provide us capacity to handle a higher flow of DSS."

The SSRTs receive DSS from a one-million gallon feed tank with salt waste that has come from the Actinide Removal Process (ARP)/Modular Caustic Side Solvent Extraction Unit (MCU). The DSS is then turned into a grout mixture and permanently disposed of in the Saltstone Disposal Units.



Savannah River Site Begins Double Stacking Canisters



The Savannah River Site officially began double-stacking radioactive waste canisters on August 25, 2016, in the Glass Waste Storage Building (GWSB) 1, part of the innovative effort to increase on-site interim storage capacity of glassified high-level waste.

Two filled canisters were stacked one on top of the other in GWSB 1 at the Defense Waste Processing Facility (DWPF). Of the original 2,254 one-canister storage positions, 150 have been modified to accommodate two, 10-foot tall canisters. The project will continue, as needed, for another 7 to 8 years and will increase the storage capacity in GWSB 1 to 4,508 canisters.

SRS Shares Tech Innovation to Improve Environmental Cleanup across the Department of Energy

Savannah River Nuclear Solutions, LLC (SRNS) continues to develop innovative technologies that improve safety, security and quality; and recently, the company shared one of those new technologies with the Department of Energy's (DOE) Portsmouth Gaseous Diffusion Plant in Portsmouth, KY to help improve environmental sampling methods.

The Environmental Compliance Sampling Collection tool was developed by SRNS' Environmental Monitoring and Information Technology (I.T.) groups to provide real-time data from SRS' hundreds of monitoring wells and sampling locations. This new technology scraps the pencil and paper method that has been the tried-and-true method of data collection since the start of environmental monitoring activities at the Savannah River Site (SRS).

"This new technology saves tremendous time in data collection and information sharing over previous methods. The time saved correlates to cost savings for the tax payer, it is a win-win for all," said Chris Bergren, Director of SRNS' Environmental Compliance and Area Completion Projects Division.

The Environmental Compliance Sampling Collection tool has been so beneficial to SRS that they are now sharing it with other Department of Energy Sites to help modernize business practices and save precious tax dollars elsewhere.

"Now that we have had the opportunity to develop this new tool, test it in the field and confirm its benefits, we are confident that this technology can be of benefit across the DOE complex, starting with the Portsmouth Gaseous Diffusion Plant in Kentucky, where it is now being implemented," said Bergren.

In a Department of Energy Memorandum from Joel B. Bradburne, Portsmouth Site Lead, he credits the DOE Savannah River Operations Office Deputy Assistant Manager for Infrastructure and Environmental Stewardship, Angelia Adams, for her support in ensuring that this new technology is being shared with other sites like Portsmouth, stating that the sharing of technologies across the DOE complex is invaluable.

The new system was also featured at the 2015 Waste Management Conference where it received plenty of attention for

its innovation in the field of environmental stewardship.

"To sum up the benefit of this new technology one only needs to look at their smart phone. This new tool is essentially a smart phone for environmental samplers. We no longer have to take notes and go back to desks to transfer data into systems. Now, we are able to upload data wirelessly making the data available instantly, without ever leaving the sampling location. What's more, we can print labels for samples from the device while in the field, greatly diminishing the risk of human error in logging samples," said Bergren.

To date, the Environmental Compliance Sampling Collection tool has only been shared with DOE's Portsmouth Site but Bergren believes its benefits could be useful across the DOE Complex.

"This technology translates into value to the customer and tax payer. Continuous improvement is an important element in remaining cost conscious and quality driven, and that is exactly what this technology provides to organizations who work in environmental compliance and stewardship," said Bergren.



Up & Atom Breakfast Speakers

Tom Foster
President & Project Manager
Savannah River Remediation, LLC

“SRR Liquid Waste Update” and
“Our Interns Perspective”



Jeff Griffin
Associate Laboratory Director
Environmental Stewardship SRNL

“SRNL Recent Engagement in
Recover from the Nuclear



SRNL EARLY CAREER PROFESSIONALS

Katie Heroux

“The Tritium Fuel Cycle:
SRS and Beyond”



Marissa Reigel-Burnett

“Processing and
Immobilization of Legacy



Sean Branney

“Mobile Plutonium
Facility”



Kallie Metzger

“Enhanced Accident
Tolerance Fuel for Light
Water Reactors”



Upcoming Events

Nuclear Science Week

October 17-21, 2016

Activities at various locations



Edward Teller Lecture

October 19, 2016

USCA Convocation Center

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Carroll Phillips

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Eddie Estothen
Munns Advisement
Bob Sindelar

David DeVecchio
Rick Ford
Dave Olsen

Memberships

Membership renewals and new memberships are being accepted for

2016-2017! If you're not sure of your renewal date, please contact the

CNTA office at (803) 649-3456 or cnta@bellsouth.net.

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