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EM Engages Students, Professionals in Popular Conference Focused on STEM Careers



EM's Human Capital and Corporate Services Acting Deputy Assistant Secretary Melody Bell talks with Michigan State University engineering student Harold Hill at the BEYA conference.

WASHINGTON, D.C. – [EM](#) joined DOE's [Economic Impact and Diversity](#) and [Chief Human Capital Officer](#) offices and the [National Nuclear Security Administration](#) at the 2015 Black Engineer of the Year Awards Conference (BEYA) earlier this month.

The conference is a talent-rich environment for recruitment, networking, and professional development. College representatives and thousands of professionals and students in science, technology, engineering, and mathematics (STEM) disciplines and careers from around the country attend to network, seek mentors, and receive training. With a theme this year of “Exceeding Expectations: Path to the Future,” the conference offered 32 training seminars that gave participants the opportunity to join discussions on leadership, professional development, and technical advancement.

“I was extremely impressed with the caliber of professionals and students I was able to network with at this event,” said EM's [Human Capital and Corporate Services Acting Deputy Assistant Secretary Melody Bell](#). “The opportunity to shine the spotlight on the great work that is happening at DOE and in EM was well worth our investment.”

Bell and other DOE representatives hosted a recruitment booth at the conference's career fair. They met with conference participants to discuss DOE missions, employment opportunities, required job qualifications, and benefits of serving in federal government.

Hosted by Lockheed Martin Corporation, the Council of Historically Black Colleges and Universities Engineering Deans, US Black Engineer & Information Technology Magazine, and

sponsored by Aerotek, the conference is one of the most anticipated and well-attended diversity events of the year.

This year's conference featured the Stars and Stripes BEYA Veterans Transition Initiative, which provides current and former military members the opportunity to emphasize the value of their training and experience in STEM related disciplines and careers to businesses, federal agencies, and educational institutions. Panel discussions were held on topics such as transitioning and education.



College representatives, professionals, and students walk through the 2015 BEYA conference in Washington, D.C.

The conference also highlighted the following events and organizations:

- **Advancing Minorities Interest in Engineering** is a non-profit organization whose purpose is to expand corporate, government, and academic alliances that will implement and support programs that attract, educate, graduate, and place underrepresented minority students in engineering careers.
- BEYA's **Development Institute for Emerging Leaders** aims to create a forum where high achieving, goal-oriented students majoring in STEM disciplines can learn, interact and connect with career coaches.
- The BEYA **Pre-College Program** benefits middle and high school students by granting them exposure to STEM employers and professionals as well as providing the opportunity to meet with colleges and universities.
- The **Minorities in Research Science** program provides a forum to address the challenges that minority professionals in science face. Industry leaders and members of academia give advice on how to succeed through mentorship, networking, and professional development.

The 2016 BEYA conference is scheduled to be held in Philadelphia.

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DOE Recertifies EM Contractors in Star Program Recognizing Excellence in Safety



Savannah River Operations Office Manager Dr. Dave Moody presented SRNS President and CEO Carol Johnson a certificate for SRNS' recertification as a DOE VPP STAR participant during a company meeting at the University of South Carolina-Aiken.

EM congratulated two of its contractors at the [Savannah River Operations](#) and [Portsmouth/Paducah Project](#) offices for their recent [Voluntary Protection Program](#) (VPP) Star recertifications.

The recertification of Savannah River Nuclear Solutions (SRNS) and Swift & Staley by the Department's [Office of Environment, Health, Safety and Security](#) (AU) represents a strong commitment to the pursuit of excellence in health and safety, according to AU. The contractors' management teams are dedicated to ensuring mission priorities do not compromise safety and that the workforce is fully engaged in processes and programs to improve safety.

"This is representative of a learning organization embodying the spirit of continuous improvement, one of the hallmarks of the Department's Integrated Safety Management approach," said EM's Safety Management Director Todd Lapointe. "This also reflects well on our field managers and staff and their efforts to enable our contractors to succeed in their recertification. It is only through a strong partnership between DOE and our contractors that we maintain our vigilance in protecting the safety of our workers, the public and the environment."



Swift & Staley personnel raise the VPP Merit Flag received in 2012, which will soon be replaced with the VPP Star Flag.

The VPP program outlines areas where DOE contractors and subcontractors can exceed compliance with DOE orders and [Occupational Safety and Health Administration](#) standards. It relies on cooperation between managers, employees, and DOE to continuously improve health and safety programs.

The recertification process for the Star — DOE's highest safety honor — takes place every three years and analyzes contractors' safety performance, work activities, employee engagement, and overall safety culture.

Savannah River Operations Office Manager Dr. David Moody presented SRNS President and CEO Carol Johnson with a VPP Star certificate at a company meeting and commended SRNS employees for their continued excellence in safety performance.

"SRNS' continued participation in the VPP program further builds upon the legacy of safety excellence at SRS, established more than a half-century ago. I am proud of the SRNS team and their safety contributions to SRS," said Moody.

Johnson said, "To receive recognition as a DOE VPP Star participant means a great deal to SRNS. Being certified as a VPP Star participant demonstrates the Department's acknowledgment of SRNS' commitment to the safety of our employees, our community, and our critical operations that we execute every day in support of our nation's nuclear needs."



The Swift & Staley team drives posts for new signage throughout the Paducah site.

EM Site Lead Jennifer Woodard commended Paducah Infrastructure Support Services contractor Swift & Staley, a woman-owned local small business, for its continued safety success.

“I appreciate Swift & Staley’s focus on safety while performing significantly more work as a result of the recent return of the Paducah Gaseous Diffusion Plant leased facilities to DOE,” said Woodard.

Swift & Staley’s VPP Star status is a testament to teamwork between DOE, Swift & Staley employees, teaming partners Wastren Advantage, Inc. and URS Corporation, and the United Steelworkers Local 550, said Program Manager Diane Snow.

“Shared commitment by all to our safety culture has helped us continue more than nine years of work without a serious injury, which is the greatest reward,” Snow said.

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SRS Workers Moved Millions of Gallons of High-Level Waste Safely in 2014



A view of the Savannah River Site, which includes underground waste tanks and facilities.

AIKEN, S.C. – EM and its liquid waste contractor safely transferred more than 20 million gallons of high-level waste within the [Savannah River Site's](#) (SRS) waste tanks and facilities in 2014.

While not a record year, it represents more than 1,170 different times the liquid waste was transferred to safely manage the site's 37 million-gallon inventory, treat the waste, and clean waste tanks.

As a result, this work leads to the operational closing of the tanks, said SRR President and Project Manager Stuart MacVean. SRS continues to make steady progress on permanently closing waste tanks. This ongoing work at the site, where EM and Savannah River Remediation (SRR) have closed six tanks, is a centerpiece of the cleanup program's tank waste mission.

DOE-Savannah River Waste Disposition Project Acting Assistant Manager Jim Folk said that transferring liquid waste within SRS is fundamental but critical to site operations.

"Moving this very large amount of waste takes a lot of planning and skill," Folk said. "The liquid waste system is much like a major freeway with a lot of traffic, on and off ramps, one-way flow and certain destinations. Much of the site's work related to transferring waste doesn't get the headlines, but we all know it's critical."

MacVean said, "While treating, dispositioning and immobilizing high-level waste receives most of the attention, our employees are doing a tremendous job of continuing to safely keep our waste in the right place at the right time. Their work may be unheralded at times, but it is the foundation on which we keep the liquid waste mission moving forward."

EM and SRR manage waste to keep the site functioning. Moving waste through the system positions it for disposition.

SRS receives waste from operations at its H Canyon — the only hardened nuclear chemical separations plant still in operation in the U.S. — and its laboratories, including EM's Savannah River National Laboratory. The waste also comes from normal waste processing and

disposition activities. More than 300 transfer lines, comprising approximately 21 miles, are available for waste transfers.

“Without these necessary transfers, many site operations would be hindered or have to shut down,” MacVean said.

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SRS Pods Bring Savannah River Site to Public



SRNS employee Mike Griffith leads a presentation on environmental monitoring and restoration at the SRS Information Pods held at GRU's Summerville Campus in Augusta, Ga.

AUGUSTA, Ga. – [Savannah River Site](#) (SRS) projects and missions topped the agenda of the [SRS Information Pods](#) on the [Georgia Regents University](#) (GRU) Summerville Campus earlier this year.

A partnership involving SRS, GRU and [Augusta Technical College](#) (ATC), the event marked the first time the pods were held on a college campus.

“If you like science and knowledge, then there’s no better place to be on a Wednesday night in Augusta,” said attendee Josh Dillard. “As a student of nuclear science here at GRU, it was really awesome to hear about professionals doing this type of work locally that I can learn from firsthand. It’s one thing to learn about a process in a classroom. It’s quite another to learn about how it works in a workplace environment.”

The evening began with exhibits on the nuclear science programs at GRU and ATC. Other displays focused on Savannah River Nuclear Solutions (SRNS) — EM’s management and operations contractor at SRS — the [SRS Community Reuse Organization](#), Workforce Services, [Savannah River Ecology Laboratory](#), and [SRS safety culture](#).

Following the poster session, SRS representatives conducted four “pods,” or breakout sessions, on EM’s [Savannah River National Laboratory](#), environmental monitoring and restoration, nuclear materials management, and waste management.

“The information pod model allows us to bring the site to the public and illustrate the work done at SRS to improve national security, clean energy, and environmental stewardship that helps not only the Savannah River Site but the nation as a whole,” said DOE-Savannah River Nuclear Materials Programs Director Tony Polk. “The small group environment during the sessions promotes interaction between the speakers and people from the community so they can have their questions answered.”

SRNS Community and Government Relations Director Teresa Haas said, “Having the venue at GRU in Augusta allowed us to focus on students who have an interest in careers related to the nuclear industry. We had close to 100 students with different types of majors attend.”

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EM Contractor Responds to Train Derailment



SRNS firefighters evaluate team members for potential hazards after responding to the train derailment.

About 19,000 gallons of hydrochloric acid spilled from a train that derailed and slammed into six railroad cars parked on a short spur near the [Savannah River Site](#) (SRS) near Allendale, S.C.

Soon after the accident, more than 10 different agencies, companies, and organizations, including the FBI, arrived at the scene of the accident involving two engines and 15 train cars.

Per a mutual aid agreement with Allendale County, Savannah River Nuclear Solutions (SRNS), EM's management and operations contractor, dispatched several SRS personnel to assess and control immediate and secondary hazards associated with the release of the acid and diesel fuel.

“We recognize and embrace the important role our fire department plays towards supporting the municipal and volunteer fire departments that protect communities near SRS,” DOE-Savannah River Operations Office Manager Dr. Dave Moody said.



SRNS responders assess the wreckage from the train derailment.

In addition to SRS Fire Department personnel, the [Atmospheric Technologies Group](#) (ATG) at EM's [Savannah River National Laboratory](#) helped identify potential environmental hazards linked to the derailment and weather conditions.

The ATG model showed that the cold morning temperatures and rapid evaporation of the released material minimized airborne hazards while emergency responders were present.

SRNS hazmat-qualified firefighters entered the swampy area where the accident occurred to turn off the locomotive engine after the derailment.

The [Environmental Protection Agency](#) (EPA) and [South Carolina Department of Health and Environmental Control](#) (SCDHEC) oversaw cleanup of the wreckage site to prevent chemicals in nearby Lower Three Runs swamp and wetlands area from reaching the Savannah River.

A team of SRNS employees who are trained to respond to emergencies worked around the clock to protect personnel, the environment, and equipment from chemicals released at the scene.

“From the standpoint of all the senior leadership at SRS, we’re very proud of the outstanding job SRNS employees did to respond swiftly, address immediate hazards, and implement containment controls,” SRNS Environmental Services and Safety and Health Senior Vice President Alice Doswell said.

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West KY Regional Middle School Science Bowl



Deegan Lawrence (far right) from Henderson County North Middle School gives an answer as teammates D.J. Banks (middle) and Alex Chandler look on during DOE's West Kentucky Regional Middle School Science Bowl in Paducah February 6. Henderson North won the competition and will compete in DOE's National Science Bowl® in Washington, D.C. April 30 through May 4.

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NAMP Participates in Homeland Security Exercise



David Harris, with the Oak Ridge Institute for Science and Education radiochemistry laboratory, conducts a fusion to dissolve a soil sample. This work was part of the 2014 Integrated Consortium of Laboratory Networks Full-Scale Exercise.

CARLSBAD, N.M. – A program led by EM's [Carlsbad Field Office](#) (CBFO) that coordinates analytical capabilities throughout DOE for response to potential national radiological incidents participated in a multi-agency exercise that simulated emergency response scenarios in Denver and Chicago.

The [National Analytical Management Program](#) (NAMP) joined the 2014 [Integrated Consortium of Laboratory Networks](#) (ICLN) Full-Scale Exercise late last year. Conducted by the [Department of Homeland Security](#), the exercise involved four federal agencies — DOE, the [Environmental Protection Agency](#), [Centers for Disease Control and Prevention](#), and [Food and Drug Administration](#).

CBFO, which has responsibility for the Waste Isolation Pilot Plant and the National Transuranic Waste Program, has led [NAMP](#) since the fall of 2010.

In the mock scenario, Denver was impacted by a radiological dispersive device (RDD) containing a beta-emitting isotope, and Chicago was impacted by an RDD containing an alpha-emitting isotope. Samples were analyzed and data were electronically reported within five days, simulating the rapid response necessary in an event.

During the exercise, DOE successfully demonstrated capabilities of a Radiological Response Laboratory Network by partnering the [NAMP](#) and the [Federal Radiological Monitoring and Assessment Center](#) (FRMAC). FRMAC prepared and shipped 150 soil and air filter samples for analysis of radiological constituents to participating NAMP laboratories to assess emergency response preparedness and interoperability to support a large-scale radiological/nuclear event. Five NAMP laboratories participated: WIPP Laboratories, [Sandia National Laboratories](#), the [Oak Ridge Institute for Science and Education](#)'s radiochemistry laboratory, [Savannah River Site](#)'s (SRS) Environmental Bioassay Laboratory, and the Analytical Chemistry Organization Laboratory at the [Y-12 Weapons Security Complex](#).

“As events in the world continue to be of concern to the U.S. and other nations, the importance of NAMP increases,” CBFO Manager Joe Franco said. “CBFO is pleased to lead the DOE initiative. Exercises such as this one with Homeland Security help our preparedness and benefit our and other nations’ readiness.”

Josef Sobieraj, CBFO safety engineer, serves as NAMP’s director.

“The program’s objective is to coordinate analytical capabilities for responding to a national radiological event,” Sobieraj said. “NAMP is addressing a vital need to attain the most effective use of technology and resources for U.S. radiological preparedness.”

“It’s important for DOE laboratories to collaborate and support other federal agencies in case there is a need to respond to an emergency,” WIPP Laboratories Director Mansour Akbarzadeh said of the importance of participating in these types of exercises.

“The ICLN full-scale radiological laboratory exercise gave Sandia National Laboratories’ Radiation Protection Sample Diagnostics Laboratory an opportunity to test its ability to provide analytical services in a national emergency scenario, as well as provide feedback on the newly developed DOE-FRMAC laboratory analysis tools,” said Sandia National Laboratories/FRMAC Program Manager Sonoya Shanks.

“The ICLN exercise is an important step in capturing the capabilities of government-operated laboratories in response to a potential nuclear accident,” Oak Ridge Associated Universities Laboratory Manager Wade Ivey said. “The inclusion of real samples was the key component to this exercise, as table-top exercises only provide information in an ideal situation. I believe there should be more exercises like this so that government and non-government labs are on the same page should a nuclear event take place in the United States.”

“Participating in the ICLN exercise was a great opportunity for the environmental lab at SRS to demonstrate preparedness in the event of an emergency. All the labs involved did an excellent job of meeting the intended objectives of the exercise, including sample receipt and prep, analysis, and data reporting,” SRS Environmental and Bioassay Laboratory Manager Wendy Jordan said. “This networking opportunity provided a mechanism for identifying program strengths, as well as developing improvement opportunities for the reporting system.”

Click [here](#) for more information about NAMP.

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Physicist Teaches Students About Radiation



Alderson gives his interactive demonstration about radiation to students at Somerset Academy Sky Pointe Campus.

LAS VEGAS – Certified Health Physicist Stacey Alderson, who supports the EM program at the [Nevada National Security Site \(NNSS\)](#), visited fifth-graders in the science department at Somerset Academy Sky Pointe Campus in Las Vegas earlier this year. More than 120 students viewed his presentation and took part in a hands-on demonstration.

When asked what their thoughts were hearing the word radiation, several students began singing the popular Imagine Dragons song, “Radioactive.” Others said they thought radiation was dangerous.

Displaying a radiation detector and common household items such as fertilizer, a smoke detector, and salt substitute, Alderson showed students how radiation occurs naturally in the environment. He used graphs and photos to demonstrate how radiation is measured and pointed out sources of radiation, forms of radiation occurring naturally in the body and in food, and the materials (paper, aluminum, lead, water, and concrete) that stop different types of radiation.



Much to the amusement of their classmates, a few students had the opportunity to don specialized personal protection suits complete with rubber shoes and latex gloves, similar to those Alderson uses in the field at the NNSS.

“Many of the students were surprised to discover radiation occurs naturally in the environment, in food we eat, and even inside the human body,” Alderson said. “They now understand how radiation has various significant uses, such as cancer treatment.”

With 18 years of experience in applied health physics, Alderson applies this knowledge as the Environmental, Safety, Health, and Quality Manager for Navarro-Intera, the environmental restoration and remediation contractor for the DOE National Nuclear Security Administration Nevada Field Office.

Alderson also conducted a radiation presentation this month for the Science Explorers Club at the Las Vegas Natural History Museum.

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Contributors

Jessica Burnett, Paducah site

Dean Campbell, Savannah River Site

Andre Fordham, EM headquarters

Debra Jolly, Paducah site

Patricia Neese, Nevada National Security Site

Victoria Parker, Waste Isolation Pilot Plant

Caroline Reppert, Savannah River Site

David Sheeley, EM headquarters

DT Townsend, Savannah River Site