



News from the Savannah River National Laboratory

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(top) A team made up of participants from the North Carolina and Georgia National Guard Civil Support Teams prepare to investigate the car, as the SRS employee playing the role of the local police officer provides information (SRNL photo)

(bottom) A Philadelphia Police Department team member examines the storage facility, as part of the timed test (SRNL photo)

Experts Tests Agencies' Skills at Radiological Detection and Control

AIKEN, S.C. (April 30, 2012) – National Guard and police personnel with radiation detectors swarmed the campus of Aiken Technical College and the Savannah River Site (SRS) recently, but the crowd of observers was not alarmed. In fact, a group of Aiken Tech students had vied for the opportunity to take part and watch them in action.

It was all part of an exercise conducted by the U.S. Department of Energy's Savannah River National Laboratory (SRNL) on behalf of the Department of Homeland Security's Domestic Nuclear Detection Office (DNDO). The goal was to challenge state and local agencies' abilities to protect the public by detecting radioactive materials and responding appropriately in a variety of controlled, but realistic, scenarios. Civil Support Teams from the South Carolina

National Guard, North Carolina National Guard, and Georgia National Guard, and a team from the Philadelphia Police Department Counter-Terror Operations took part in the exercise.

"Because of our background, we provide a lot of training, consultation, and other support for law enforcement and homeland security agencies related to radioactive materials," said Jeff Newman of SRNL's National Security Directorate, the program lead for the exercise. "In this exercise, we were challenging them to actually perform in the kinds of situations they could encounter in real life. The

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fact is, these are the folks who are at the tip of the spear in protecting all of us. We are proud to play a part in providing them an exercise that sharpens their radiological detection skills.”

SRNL personnel devised exercise scenarios that required the participants to respond to a suspicious package in a mail room, pre-screen the venue for a political rally, screen ticket-holders coming to a concert, and respond to a suspicious abandoned vehicle.

“We have an existing relationship with Savannah River in exercise development, so we used that resource to develop the pilot exercises,” said Tim Smith, DNDO project manager. “A special bonus was that Savannah River partners with Aiken Technical College, which has worked out really great. You have a great partnership there that has also helped us.”

Smith said that the two-day exercise was a pilot for a future exercise, involving even more teams. “That’s going to be a nationwide effort to bring in state and local first responders. If we can bring everyone together in a competitive environment – friendly, but competitive – we can see who does the best, why they did the best, what equipment they used, what equipment worked best,” he said. “We’re going to raise awareness, and we’re going to raise the ability of the nation to interdict illicit nuclear materials and respond to a threat, no matter where it is in the country.”

The realism of the exercise, he said, produced useful information about how the various types of detection equipment performs in realistic applications. This type of information can help lead to improvements in the available equipment. “Probably the most interesting outcome so far has been that some of the instrumentation does not quite respond like it does in other training events,” he said. “It’s very good for the operators, and will also be very good for the equipment vendors because when they find out what the issue is, they can get the problems addressed.”

Aiken Technical College was host for the first day of the two-day exercise. Twenty-five students from the college’s Radiation Protection Technology and Criminal Justice programs were engaged to play the roles of concert-goers at the college’s amphitheater. Three other Aiken Technical College Radiation Protection Technology students who currently work as interns at SRS were also among the role-players, in addition to working with the SRNL team on logistics for the exercise.

“This exercise put my classwork in perspective, and it was great to see how these detection devices are used in a real setting,” said Michael Spaulding, Aiken Technical College student and intern at Savannah River Nuclear Solutions. “Seeing how an exercise like this is conducted is great for us as students, and it was also an opportunity to talk with professionals in a real-world setting.”

David Deal, Department Chair of Industry and Skilled Trades and Academic Coordinator for the Radiation Protection Technology Program at Aiken Technical College, said “This exercise was a great opportunity for our students. ATC students were interacting with professionals in the radiation protection field, and seeing equipment we have talked about in the classroom in use in a field exercise.”

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Two additional scenarios made use of Aiken Technical College facilities. In one, a mail room at the college was converted to a simulated express shipping processing facility, where teams were told that staff reported finding a package they considered suspicious due to some markings that seemed to indicate radiological material. The teams had to identify, detect and control any radiological sources that might be present in the mail room. A third exercise found the college preparing for a major political event in the college's gymnasium. Teams had to screen the venue in the hours before the public and VIPs were scheduled to arrive; complicating their task was an Aiken Technical College faculty member playing the role of a harried event organizer, eager to get preparations under way.



Team members screen "concert-goers" at Aiken Technical College, as exercise organizers/evaluators from SRNL observe (Aiken Technical College photo)

On the second day, activities moved to SRS, which, because of its large land area and varied facilities, has provided locations for a number of different training events and exercises conducted by SRNL for the various agencies the Laboratory supports.

One exercise scenario called for the teams to investigate a disabled vehicle, which the teams were told had been found along a roadway. Markings on containers in the vehicle indicated that it was used to transport radiological material. Another scenario required participating teams to respond to an industrial warehouse where the teams were told that a law enforcement raid had resulted in the discovery of two packages with radiological markings.

In each scenario, the teams had to select and use the appropriate radiation detection equipment, find and identify radioactive sources, and manage the scene in ways that protected both their own safety and that of the public.

Another event was a timed test, in which the teams had 15 minutes to locate and identify sources hidden in a storage facility. In the final event of the two-day exercise, individual participants competed head-to-head surveying parallel lines of concrete structures where multiple radiological sources had been hidden. The goal was to detect, locate and identify the sources quickly and accurately.

Lt. Col. Kelvin Brown, commander of the South Carolina National Guard 43rd Weapons of Mass Destruction Civil Support Team (CST), which provides direct support to civil authorities in the area of chemical, biological, radiological and nuclear threats, found the two-day exercise to be useful for all involved. "We operate in similar venues to the scenarios that were developed for this exercise, so it's sort of a win-win situation," he said. "We work with Savannah River National Laboratory on the test bed in development of the competition, and we get direct training using rad sources to test our TTPs [tactics, techniques and procedures] as we support first responders.

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“We all work as a team: FBI, DOE, CSTs, other federal, state and local elements, all of which have capabilities,” he added. “It is paramount that we start to train together, work together in order to collaborate our capabilities.”

The exercise, which used sealed radioactive sources, was conducted under the supervision of personnel from SRS Radiological Protection Department and SRNL trained in the safe handling and control of radiological materials. Only these trained personnel were permitted to move or handle the radiological sources; the exercise participants detected, identified, and controlled the areas around the sources, but did not handle them. “The important thing was to design a field exercise that would provide realistic experiences, but in a way that did not put the participants in any risk of harm,” said SRNL’s Newman. “Everything from the selection of the sources to the involvement of radcon personnel observing all the action was designed for maximum safety and maximum usefulness.”

SRNL is the U.S. Department of Energy’s applied research and development national laboratory at the Savannah River Site. SRNL puts science to work to support DOE and the nation in the areas of environmental stewardship, national security, and clean energy. Savannah River Nuclear Solutions, LLC (a Partnership comprised of Fluor, Newport News Nuclear and Honeywell) is responsible for the management and operations of DOE’s Savannah River Site, including the Savannah River National Laboratory.

Aiken Technical College is a public, open-door, two-year, comprehensive institution of higher education established to provide citizens of greater Aiken County opportunities for educational, economic, professional, civic and personal development. Through its focus on teaching and learning, the college supports economic growth and community development by educating and training students for entry into the workforce or for further higher education.

The Domestic Nuclear Detection Office (DNDO) is a jointly staffed agency within the Department of Homeland Security. DNDO is the primary entity in the U.S. government for implementing domestic nuclear detection efforts for a managed and coordinated response to radiological and nuclear threats, as well as integration of federal nuclear forensics programs. Additionally, DNDO is charged with coordinating the development of the global nuclear detection and reporting architecture, with partners from federal, state, local, and international governments and the private sector.

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Video and additional photography are available from:
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