

WSRC News

Washington Savannah River Company, Savannah River Site

February 28, 2007

Deputy Secretary of Energy lauds SRS Employees



U.S. Deputy Secretary of Energy Clay Sell toured the new Tritium Extraction Facility (TEF) on Tuesday and spoke at a celebration to mark the restoration of tritium production.

The tritium facility gives the nation the ability to replenish tritium supplies in nuclear weapons after 18 years of recycling it. The extraction facility makes a key contribution to the safe inventory needed to main-

tain America's nuclear weapons stockpile.

"I am pleased to be with you today to personally congratulate the National Nuclear Security Administration's (NNSA) employees at the Savannah River Site for their successful completion of this critical project," Deputy Secretary Sell said. "Through operations at the Tritium Extraction Facility, the United States is manufacturing an essential component of our nuclear defense system and helping to ensure the future safety, security, and reliability of our nuclear stockpile."

On February 6, 2007, SRS completed the startup of the TEF and safely made the first transfer of new tritium gas to the nation's tritium inventory. Since SRS's tritium production reactors were shut down in 1988, the nation has used tritium recycling operations to keep the nation's nuclear weapons arsenal viable. As weapons were retired from the stockpile, their tritium gas was recovered and recycled for use in refurbished weapons. Because tritium has a half-life of only 12.3 years, this practice provided only a short-term solution.

The \$506 million TEF project was started in 2000 after a \$142 million upgrade of an existing SRS facility, the Tritium Modernization Consolidation Project. It was

completed in 2005 and allows for the shut down and deactivation of SRS's pre-Cold War tritium facilities, which operated for almost a half century.

During Tuesday's visit, Deputy Secretary Sell also toured the Savannah River National Laboratory.



WSRC Senior Management Organizational Changes

E. Preston Rahe, Jr., President, Energy & Environment business unit, in conjunction with the Office of the Chairman of Washington Group International, announced a change in the WSRC President's position, effective April 1, 2007.

Bob Pedde, the current WSRC President, has taken a position with Washington Group as Executive Vice President of International Government Nuclear Programs.

Leo Sain, currently WSRC's Executive Vice President of Management & Operations, will become the new WSRC President.

In addition to the changes in the President's office, two other organizational appointments have been announced, both also effective April 1.

Bill Poulson is appointed Executive Vice President, Management and Operations. He currently serves as Executive Vice President, Liquid Waste Operations

Dave Olson is appointed Executive Vice President, Liquid Waste Operations. He currently serves as the Liquid Waste Operations Manager.

What Counts?

16 Number of months left in WSRC's recently extended contract

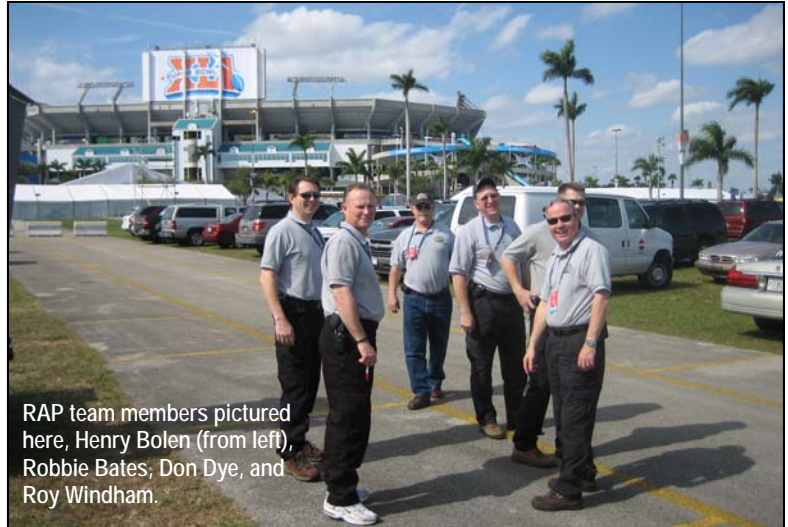
RAP Team Scores in Super Bowl Support

The Radiological Assistance Program (RAP) just completed one of its busiest periods in the history of the program, including Super Bowl support.

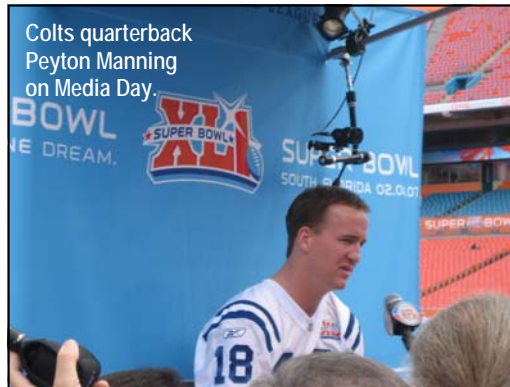
Fifteen RAP personnel recently returned from a successful 10-day deployment in support of Super Bowl XLI. During the period, various locations specified by the NFL were monitored for radioactive materials. These areas included the stadium and team transportation. In addition, all commercial vehicle deliveries were scanned for radioactivity and then x-rayed prior to being allowed into the stadium area.

During this same period, a RAP team was dispatched to support receipt of seven casks of spent foreign reactor fuel, which were safely off loaded and shipped to SRS.

Additionally, four classes were conducted at the Federal Law Enforcement Training Center for US Coast Guard personnel, RAP team members attended the EPA Region Four Regional Response Team meeting, and a planning session for the upcoming Mars Science Lab launch in 2009 at the Kennedy Space Center.



RAP team members pictured here, Henry Bolen (from left), Robbie Bates, Don Dye, and Roy Windham.



The Miami Police Department K-9 Unit checks a bus.

Calibration Laboratory Achieves National Recognition

An SRS laboratory has received accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) for ionizing radiation.

NVLAP is a U.S. Government entity that accredits testing and calibration laboratories found competent to perform specific tests or calibrations. The lab's accreditation function at SRS is to calibrate instruments that measure levels of radioactivity. Every year, the lab calibrates thousands of SRS instruments in state-of-the-art facilities.

"This is an example of a team having a vision and working for it," says Patricia Allen, deputy director of WSRC's Envi-



Cheryl Bush at work in laboratory

ronment, Safety and Health organization. "They did their homework, knew what they had to do, and improved the process so that they could achieve this success. They deserve it and everyone involved should be very proud."

"We have some of the leading experts in the field of instrument calibration at SRS," says Jim Stafford, WSRC's manager of Radiological Protection Programs.

"We have a program that can safely handle radioactive materials, with knowledgeable people, and special capabilities to conduct instrument calibrations," says Allen.

Spent Fuel Plans for Heavy Water Disposition

Plans, technologies and ideas were shared among a wide variety of participants in the heavy water industry during a meeting hosted by DOE-SR and WSRC's Spent Fuel Project recently at Aiken Technical College.

SRS currently stores a large inventory of heavy water remaining operations of its production reactors during the Cold War. This heavy water is being stored in facilities that are either marked for other missions in the near future or in facilities slated for eventual decommissioning. This heavy water must be relocated or dispositioned off site to make way for future work, according to Ed Petty, Spent Fuel Engineering.

The purpose of this meeting was to assemble major participants of the heavy water industry together to share the services, resources, developments and the processing capabilities currently available.

The predominant user of heavy water worldwide is the CANDU power reactor industry, but heavy water is also used in research reactors, other research applications and in the pharmaceutical industry. According to Charles Nickell, Spent Fuel Project Manager, "A substantial amount of information was exchanged and a lot of networking accomplished in the focus group meeting. Participants are optimistic that beneficial uses can be established with this rare and valuable resource, and are looking forward to future meetings."

Attending the meeting were representatives from Spallation Neutron Source Facility, the Y-12 Facility at Oak Ridge National Laboratory, the National Institute for Standards and Technology, the Massachusetts Institute of Technology, North Carolina State University, Perma-Fix Environmental Services, Nuclear Source and Services Inc. (NSSI), Citizens for Nuclear Technology Awareness and the Canadian firms of Atomic Energy of Canada Limited and Ontario Power Generations.



Walter Shmayda, University of Rochester in New York, shares information on the Heavy Water Detritiation System

'Snowbank' Found in Tank 5 Awaiting Sampling



William Cheng, SRNL, attaches a snapper cup to the articulating arm of the snow bank sampling retrieval tool. The barrel (pictured in the foreground) is filled with kaolin clay, which is used as simulant for the mock-up exercise.

An unknown white mound of material, referred to as a "snow bank," has been found in Tank 5 and is awaiting sampling to identify its characteristics. The snow bank was discovered recently when camera inspections were conducted to determine the final amount of sludge remaining in the tank.

The white material is located under Riser 1 and the Valve House. The sample analysis will determine the amount of sludge material, including the snow bank, that must be removed before the tank can undergo chemical cleaning.

With the help of the Savannah River National Laboratory (SRNL), a tool has been developed to sample the snow bank for characterization. The tool is a 60-foot long metal arm that will be inserted inside the tank. Once inside, the tool's articulating arm contracts into an "L" shape, similar to a human arm that contracts at the elbow, to reach through cooling coils to the snow bank. The "fingers" of the L-shaped arm consist of an air-driven, cup-like attachment (snapper cup) that telescopes down into the waste and scoops out the sample.

Three samples will be retrieved this week and sent to SRNL for analysis and characterization.

Modifications Prepare Vault 4 for MCU Waste

At the same time the Modular Caustic Side Solvent Extraction Unit (MCU) is being prepared to process salt waste, Vault 4 is being modified to permanently store a portion of the processed waste.

Why are modifications necessary? The answer lies in the organics that will be present in the decontaminated salt solution received from MCU. The decontaminated solution will contain Isopar, a flammable organic solvent carried over into the waste as a result of the MCU process. In order to safely store the waste containing trace amounts of Isopar, new safety-related controls are being installed in 10 of the 12 Vault 4 cells (one of the two remaining cells is filled and capped; the other cell is almost full and will not receive any additional grouted material). The controls being installed ensure the vault cells can safely store this material.

Currently, two types of modifications are occurring in Vault 4. The first involves installing a dual temperature monitoring system that uses two thermocouple trees (similar to or-



Each Vault 4 cell at the Saltstone Processing Facility is capable of containing about one million gallons of grouted material. All of the decontaminated salt solution received from MCU is expected to be permanently stored within the 10 Vault 4 cells.

dinary thermometers) in each of the 10 cells. The thermocouple trees measure the temperature of the grout at one-foot intervals, as it is transferred into the cells. This system is equipped with safety-significant interlocks that shut down feed to a vault if the temperature of the grouted material approaches a pre-determined limit.

As grout being fed into one cell reaches the pre-determined temperature, it will be rerouted to a second cell, allowing the first to cool. The second vault modification includes installing two portable skid-mounted ventilation systems to purge the atmosphere in the cells, ensuring a

flammable gas mixture is not present.

In the past, the Saltstone Processing Facility vaults did not receive flammable organic containing material, so a ventilation system was not necessary. Now with the introduction of Isopar into the waste, the new skid will provide simultaneous ventilation to two, side-by-side cells, keeping the vapor space in the cells below the flammability limit.

F Tank Farm Holds BBS Heart to Heart

F Tank Farm held its second BBS Heart to Heart day recently.

It was a day of re-emphasis on the BBS process and how that program works better when we work together.

The agenda included speakers such as Office James Holiday, who discussed "Traffic Stats at SRS," a personal testimony from Mike Cothran, and Mike Borders, who spoke on the topic "FTF, BBS, ME & YOU."

Closing remarks were given by Kim Hauer.



Left: Attendees were served a special cake. Below: Officer James Holiday speaks to the group.



Introduce a Girl to Engineering Set For March 10

On March 10, SRS engineers will continue to take small steps toward easing the approaching shortage of workers skilled in the engineering disciplines at the seventh annual Introduce a Girl To Engineering Day. During this day-long event, to be held at USC-Aiken's Ruth Patrick Science Center, approximately 50 girls from 25 middle schools in the CSRA will interact with SRS professionals, who will teach them more about careers in engineering.

According to Barbara Smoak, Manager, WSRC Education Outreach Program, the focus on female middle-school students is by design. "We have a particular interest in providing this information to female students because traditionally, females are underrepresented in career fields that are science and technology oriented."

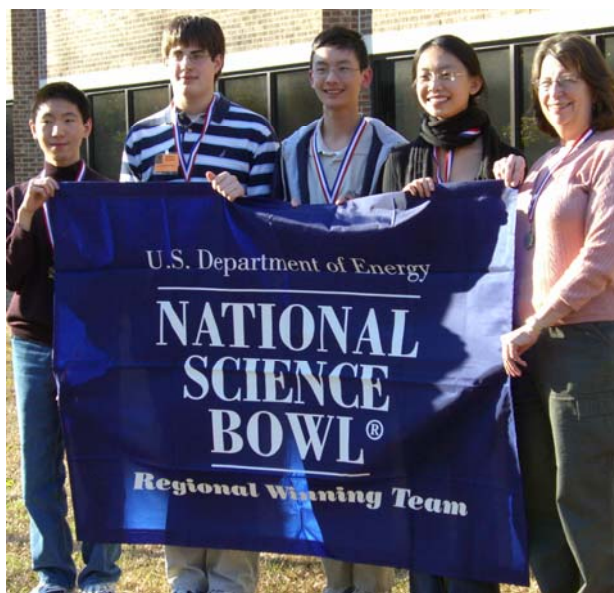
The CSRA Society of Women Engineers (SWE) is helping to sponsor the local event, with support from WSRC and its partners (Bechtel Savannah River Inc., BWXT Savannah River Co., CH2 Savannah River Co. and BNG America); USC Aiken - Ruth Patrick Science Education Center; Washington Safety Management Solutions and CSRA - American Society for Engineering Management.

Lakeside Wins Science Bowl

Lakeside High School of Evans, Georgia won the South Carolina/Georgia regional championship in DOE's National Science Bowl® for high school students held Feb 10 at The University of South Carolina Aiken. The winning team advances to Washington, DC, to compete against 66 other regional winners in the National Finals of DOE's National Science Bowl April 26-30. Evans High School, Augusta finished second, and Irmo High School, Columbia finished third.

These teams spent months preparing for the National Science Bowl's regional

competition, which features head-to-head competition in a fast-paced question and answer format similar to *Jeopardy*. The students were quizzed on all science disciplines.



From left, Ben Chan, Zachary Dromsky, Jian Huang, Yi Liu, Charlotte Smith (Coach).

Ingots Campaign Completed

Once again, SRS has played an important role in reaching a national goal of helping to make the world a safer place. On Feb. 21, Nuclear Fuel Services in Erwin, Tennessee, confirmed receipt of the last shipment of highly enriched uranium (HEU) aluminum alloy ingots from the Nuclear Materials Management (NMM) Area Project.

This receipt marks the end of a campaign where over 5,800 ingots that were considered to be in a weapons-usable form were shipped from the K Area Complex. Shipments began in 2003 and this campaign was considered a key component in the ongoing NNSA Non-proliferation "Weapons to Plowshares" campaign.

"There was nothing routine about this campaign," explains Larry Davis, NMM Project Manager. "Each ingot was carefully packaged in a drum, then placed on a cargo restraint transporter before it was ultimately loaded into a Safe Secure Transport vehicle," according to Davis. "Through the efforts of our personnel, the HEU ingots can now be disposed of through a low cost, beneficial, and peaceful use."

Originally, the uranium would have been used in one of the SRS reactors to make special nuclear materials. With the end of the Cold War, the uranium was declared surplus in the 1990s. While considered stable, the HEU ingots required a safe disposition path. Through an agreement with the Tennessee Valley Authority, the ingots will be processed into low enriched uranium nitrate, which is suitable for fabrication into commercial reactor fuel to produce electricity.

Service Milestones

Congratulations to the following SRS employees, who are celebrating service milestones in **March**.

45 YEARS

Andre Gray

35 YEARS

Ken Wood

30 YEARS

Richard Bartlett
Margy Beckmeyer
Russell Beckmeyer
Phillip Berry
Alice Bielewicz
Thomas Brantley
Rudolph Bush
Victor Carter
Vernita Dukes
Don Graham
Billy Johnson
James Loftis
Robert Mannix
James Marsh
Shirley McCollum
Phillip Moore
Sandra Nappier
Raymond Roseberry
David Sakers
Wilbur Still
Ronald Thomas

25 YEARS

Michael Allen
Joe Black
Marybeth Buxton

Milledge Callaham Jr.
Mary Coleman
Thomas Cox
William Doughty
Jerry Dudley
Jeffry Frommer
Richard Glazener
Dale Gulley
Haven Haddox
Dennis Hendrix
Albert Jenison, Jr.
Kenneth Lamb
Robert Lancaster
Glenn Langdale
William Mauck Jr.
William Michael
Charles Miller
Henry Miller
Michael Owens
Billy Pennington
Billy Rains
Richard Redd
Joseph Roberts
Charles Robinson, Jr.
Ronald Rutland Jr.
William Sheppard
Michael Staley
Michael Summer
Gloria Sweat
Kirby Thompson
James Thompson Jr.
Joey Timmerman
Chris Toole

Andrew Vincent III
Johnny West
Jerry Westall
Sherrill Wilcox

20 YEARS

William Abeyta
Alvin Anderson, Jr.
Janet Anderson
Dennis Barker
Marion Barnes Jr.
Roger Barton
Edward Beasley II
Joseph Brown III
Deborah Bryson-Damon
Annette Burnett
Larry Bussey
Vivian Cato
Richard Conway, Jr.
Gricelda Cunningham
Deborah Damon
Robert Domzalski
Randy Frazier
Paul Gazda
Hart Galle Jr.
Bonnie Ginn
Ronald Greer
Delaine Haddock
Barbara Headrick
Robert Howell
John Irons
Lydia Jenkins
Paulette Johnson

Isaac Jones
Michael Jones
James Leaptrotte
Greg Lowry
Jimmy Mayes
Mark McKay
Ed McNamee
Geneva Minus
Michael Monroe
Peter David Moody
Ricky Newman
Seth Owens
Thomas Pearre
Steve Poda
Danny Roon
Michael Smith
Todd Tanton
Richard Williams
Ray Woods
James Wright

15 YEARS

Kathlene Bell
Carol Borders
Kenneth Bryan
Wesley Bryan
Shae Conway
Lynn Davis
John Denton
Barry Dickson
Kaye Gmitter
Debra Huggins
William Hughes

Rowland Ingram
Mervin Johns
William Kearse
Ben Lott
Nancy Lown
Anita Manigault
Floyd Martin
David May
David Miller
Michael Novak
William Patterson
Terry Pifer
Joel Sabel
Richard Skillman
John Riley
Janice Samuels
Daniel Thompson
Robert Watkins
Kevin Webster

10 YEARS

Barbara Jefferson
Glen Kessinger
Deborah Powell

5 YEARS

Paul Courtney
Stonewall Washington
Jonney Grunnet
Aika Strong



Spotlight On Core Values

- ⊙ Safety
- ⊙ Integrity
- ⊙ Results
- ⊙ Teamwork

The *WSRC News* is published by WSRC's Public and Employee Communications Department, Office of the President.

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