



SAVANNAH RIVER'S TEF: Operator John Sanders tests the control systems at the nearly complete Tritium Extraction Facility (TEF) at the Savannah River Site in South Carolina. The facility is scheduled to begin operations in FY07. It's two main buildings are the Remote Handling Building and the Tritium Processing Building. Currently, all nine gloveboxes are installed and eight have been turned over for startup testing. TEF is part of NNSA's Tritium Readiness Program. There has been no new source of tritium in the U.S. since 1988.

New Contract Will Help Shut Down Russian Reactors

As part of its effort to permanently shut down the last three weapons-grade plutonium production reactors in Russia, NNSA has signed a \$285 million contract with the Washington Group International, Inc. (WGI) to refurbish electric power generating facilities in the closed city of Seversk, Russia. The refurbishment of these facilities will allow for the permanent shutdown of the two reactors located at Seversk.

The agreement is a major milestone in the NNSA Elimination of Weapons Grade Plutonium Production (EWGPP) Program and a key element to NNSA's nonproliferation program.

"I am pleased we have reached the point where a contract is now in place for the refurbishment of electric power generating facilities which will allow us to shut down the plutonium production plants in Seversk, Russia. The continued operation of these plutonium production plants causes both nonproliferation and nuclear safety concerns, and when shut

James McConnell Named NNSA's New Chief of Defense Nuclear Safety

Administrator Linton Brooks has named James McConnell, a former Defense Nuclear Facilities Safety Board (DNFSB) official, as NNSA's chief of defense nuclear safety.

In this newly established position, McConnell will be responsible for the development and implementation of NNSA-wide safety programs. His role is to increase corporate focus on nuclear safety and to coordinate safety issues at the NNSA site offices and headquarters. He reports directly to the NNSA administrator and advises

NNSA on its interactions with the DOE, DNFSB, and other federal, state, and local agencies on matters relating to nuclear safety.

"Safety oversight of our nuclear weapons facilities is a major responsibility for NNSA, and it has become clear to me that NNSA needs a senior-level position focused solely on safety," said Brooks. "Jim's expertise and experience with safety issues in the weapons complex make him well-qualified for the job."

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McConnell, New Chief Of Defense Nuclear Safety

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McConnell's career has focused on oversight in nuclear safety. Spending 12 years at the DNFSB, he most recently was deputy technical director. In that position, he directed the board's technical staff and provided overall strategic planning to achieve the board's technical safety oversight mission. During his tenure at DNFSB, he also served as a group leader of the Nuclear Weapons

“Jim’s expertise and experience with safety issues in the weapons complex make him well-qualified for the job”

Program, a site representative at the Pantex Plant, program manager for the Y-12 National Security Complex at Oak Ridge and a technical specialist. A former U.S. Navy officer, he served as a division officer on the USS Houston stationed in San Diego, Calif.

He holds a bachelor's degree in electrical engineering from the U.S. Naval Academy and masters' degrees from the Catholic University of America and George Washington University.

American, British Scientists Discuss Collaboration At “Stocktake 2004”

Lawrence Livermore National Laboratory and the NNSA recently hosted a meeting with British scientists and defense experts to review the status of the collaboration established under terms of the 1958 U.S./U.K. Mutual Defense Agreement. The regular meeting was held at Lawrence Livermore, and focused on the special relationship between both nations on nuclear weapons matters, including collaborative work on a wide variety

of topics with NNSA laboratories and facilities.

Titled “Stocktake 2004,” this year's meeting included tours and special briefings along with discussions around nuclear defense, nuclear deterrence, nuclear science, current exchange mechanisms and weapons program support. The next Stocktake is scheduled to take place in the U.K.



“STOCKTAKE 2004”: Seated and signing a cooperative agreement, left to right: Roy M. Anderson, chief scientific adviser, Ministry of Defense (MOD); Ambassador Linton F. Brooks, administrator, NNSA; Dale E. Klein, assistant to the secretary of defense for nuclear and chemical and biological defense programs. Standing left to right: Michael J. Baker, deputy director strategic technologies (nuclear), MOD; Paul D. Taylor, director general strategic technologies, MOD; Everet H. Beckner, deputy administrator for defense programs, NNSA; David H. Crandall, assistant deputy administrator for research, development and simulation, NNSA; S. Steve Henry, deputy assistant to the secretary of defense for nuclear matters; USAF Maj. Gen. Trudy Clark, acting director, Defense Threat Reduction Agency (DTRA); A. Thomas Hopkins, director technology development, DTRA; USAF Maj. Amy Magnus.

*Got an article for the NNSA Newsletter?
Submit it for consideration to
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Los Alamos Computers Map Hurricane Impacts

Predicting with uncanny accuracy the effects of recent hurricanes, Los Alamos National Laboratory computer models are helping the Federal Emergency Management Agency (FEMA) and other organizations plan for future disasters. For those in the paths of hurricane devastation, tools such as the Los Alamos infrastructure models could mean their lights and gas return to service a day or two sooner.

“The comparison of actual effects to those predicted by the computer models was amazingly close, considering the variable storm tracks,” said Steve Fernandez, leader of the Los Alamos Energy & Infrastructure Analysis team. Working to model electric power restoration across storm-damaged areas, the scientists have been able to provide detailed information to planners on the exact infrastructure impacts, remarkably the models were run before the hurricanes made landfall.

The computer models were compared to hard reality in a pair of recent multi-agency meetings, examining results and “lessons learned” from the emergency

responses. Multi-agency teams assembled in the state and national

immediately after the storm hit to provide first emergency services such as water, sanitation and

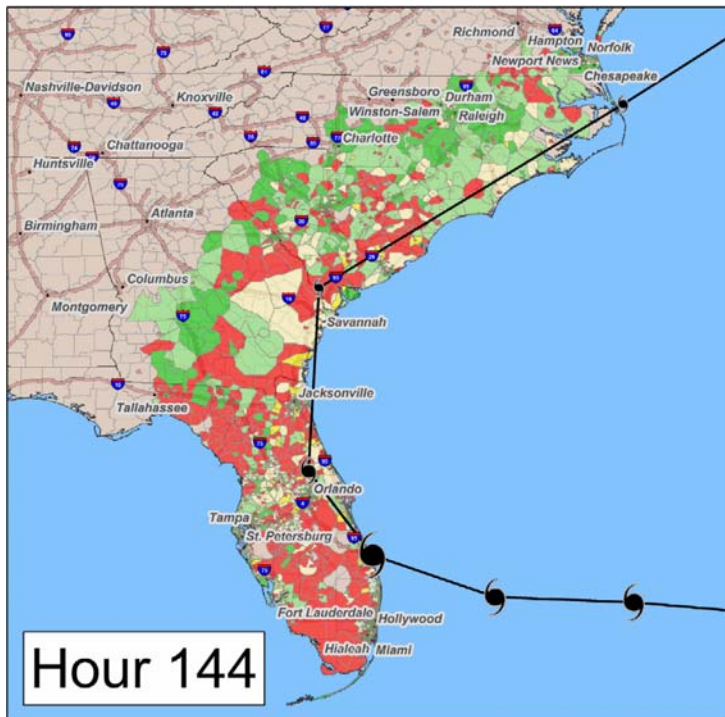
communication. The Los Alamos outage maps helped with early identification of the geographical areas to first deploy to and what the service situation would be when they got there. The second team was responsible for energy issues and worked closely with industry, state, and local stakeholders to both publicize the electric power conditions that residents should be expecting and to assist utility planning to restore electricity to the area.

An outgrowth of the event is a potential collaborative effort with Florida Light and Power to help prepare for next year’s hurricane season.

Los Alamos has a strong history in the use of computer modeling to examine critical infrastructures and how their interconnected nature can make them vulnerable. From battlefield analysis to storm-impact studies, Los Alamos scientists have built tools that help planners and first responders make the best decisions in hard situations.

emergency operations centers and command centers to coordinate the evacuation and recovery activities as the hurricane approached. Then the team moved through Florida and the other southern regions. All the players were supplied information given to the two centers to be shared in real time as the decision makers responded to unfolding events.

There, the electric power restoration data became a key focus for two teams of FEMA first-response personnel who arrived



HURRICANE PLOT: A Los Alamos lab computer model.

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Lawrence Livermore Senior Managers Help Build Habitat For Humanity Houses

Lawrence Livermore National Laboratory (LLNL) senior managers donned work gloves, safety glasses, aprons and tool belts recently to help erect frames for homes in the city of Livermore as part of an East Bay Habitat for Humanity LLNL Day. Habitat for Humanity International works in partnership with people in need at the local level to develop communities by building and renovating houses in communities. The LLNL volunteer day was part of the lab's 2004 Helping Others More Effectively campaign to collect contributions for area charitable organizations.



HABITAT FOR HUMANITY: From left: Dave Leary, associate director for laboratory services; Steve Patterson, associate director for engineering; Director Michael Anastasio; and Steve Cochran, acting associate director for nonproliferation, arms control and international security; erect a house frame. Inset: Jan Tulk, associate director for administration and human resources, helps secure a frame.

NNSA Marks 100th Shipment Of LEU Ahead Of Schedule

NNSA has reached an important milestone in its efforts to dispose of surplus weapons-usable material. The one hundredth shipment of low enriched uranium (LEU) recently departed the Savannah River Site (SRS) in South Carolina to Nuclear Fuels Services in Erwin, Tenn., four months ahead of schedule.

It is part of a NNSA nonproliferation program to blend down surplus weapons-grade highly enriched uranium (HEU) to LEU for peaceful use in electrical power generation by the Tennessee Valley Authority (TVA). Once downblended, this material can no longer be readily used in nuclear weapons.

“The HEU Blend Down Project not only supports our nonproliferation objectives of

eliminating nuclear materials declared surplus to U.S. national security requirements, but it also reduces future year security costs,” said NNSA Deputy Administrator for Defense Nuclear Nonproliferation Paul Longworth. “Once this material is downblended it no longer requires the same level of security that HEU does.”

In addition to accomplishing important nonproliferation goals, the program will result in significant cost savings to the government since a much more costly disposition path based on downblending the HEU and disposing of it as waste will be avoided. Savings realized by TVA for its reactor fuel costs will be shared with the U.S. Treasury. The HEU Blend Down Project is an

excellent example of a collaborative effort between the NNSA, the Department of Energy’s Office of Environmental Management and the TVA, Longworth added.

The HEU Blend Down Project modified existing facilities at SRS to enable them to blend the HEU down into LEU. Last year, this project won the Secretary of Energy’s Excellence in Acquisition Award. This prestigious award was given in recognition of excellence in project management that saved over \$30 million and was completed six months ahead of schedule. By completing the one hundredth shipment four months ahead of schedule, NNSA and SRS are continuing this record.

Y-12 Recognizes Staff Members With Technology Transfer Awards

BWXT Y-12, which operates the Y-12 National Security Complex for the NNSA, recently celebrated the accomplishments of thirty-four inventors and four technical support staff with technology transfer awards.

During the last five years, the thirty-four award winners have generated thirty-five invention disclosures from which patents can stem. Because of some of their innovative “what-if” musings, electronic mail now can be safeguarded against disclosing sensitive information, computers apply “human intelligence” as they rapidly analyze documents, battlefield soldiers receive instant emergency care, and metal can be melted in a microwave.

Thirteen of the awards involved microwave research, and the subject of microwave technologies was named Technology of the Year. Four attendees also received technical support awards in microwave technology. Other inventions represented advances in nanotechnology, beryllium-oxide particulate reduction, soldering, electroplating, moisture blending, chemical processing, hydrogen removal, metal casting, radiation detection, solvent decontamination, computerized training in machining, and the secure management and transmission of medical data.

Some inventions have an “action hero” ring to them. The Sonic Blast Baton is a noncontact, nonlethal nightstick that uses high-intensity sound waves. “Super material systems,” a new family of material

that holds promise for “super steel” beams and other applications, may be stronger by three orders of magnitude at half their weight. A theft-detection system relies on a unique chemical tagging method to prevent pilfering.

The awards recipients are: Elaine Allen, Barbara Beckerman, Mike Bell, Gene Bird, Steve Blasingame, Lee Bzorgi, Dave Cecala, Hal Clift, Joe Cochran, Amy DeMint, Gerald Devault, Dametria Douglas, Jack Gooch, Russell Hallman, Frank Hammitt, Tim Hickerson, Sam Lariviere, Ken Lewis, Robert McGaffey, Art Miller, Alan Moore,

“During the last five years, the 34 award winners have generated 35 invention disclosures from which patents can stem”

Jonathan Morrell, Melissa Portwood, Ed Ripley, Karen Rogers, Greg Schaaff, Roland Seals, Joel Shor, Ron Simandl, Bill Simpson, Huston Singletary, Donna Stokes, Ken Thompson, Lisa Thompson, Bill Tindal, Ray Waldrop, Brian Warren, and David Zimmerman.

Russian Reactors

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down will be two less sources of nuclear weapons-grade plutonium. I look forward to the continued cooperation with our Russian partners on worldwide nonproliferation issues,” NNSA Administrator Linton F. Brooks said.

EWGPP’s goal in Seversk, a nuclear weapons site near Tomsk, Russia, is to permanently shut down the two plutonium production reactors and replace their capacity with that from a refurbished coal-fired heat and electricity plant. The two reactors, which produce heat and electricity for surrounding communities, also produce enough plutonium to make a few bombs per week.

The project at Seversk will involve refurbishing or replacing existing coal-fired boilers, providing one new high-pressure coal-fired boiler, replacing turbine generators, completing construction of the fuel supply system, and refurbishing the industrial heating unit and ancillary systems. NNSA and its Russian counterpart, the Federal Atomic Energy Agency, will work cooperatively with WGI, a U.S. contractor, and Rosatomstroi, the Russian integrating contractor, to procure equipment and manage construction. The project is scheduled for completion in December 2008.

Another equally important part of the EWGPP mission is to shut down the third plutonium production reactor near Zheleznogorsk, another nuclear weapon site in Russia. Deputy Secretary of Energy Kyle McSlarrow recently approved the cost and schedule range for this project, which will help facilitate the permanent shutdown of the remaining plutonium production reactor.

NNSA Issues Draft RFP For Los Alamos Contract

NNSA has issued a draft Request for Proposal (RFP) for the competitive selection of a management and operating (M&O) contractor for Los Alamos National Laboratory (LANL) in New Mexico.

Offerors with the capability to manage world-class science and achieve excellent operations and management performance are being sought by NNSA to manage the multi-disciplinary laboratory. Key elements of the proposed contract included in the draft RFP are:

- Unique contract clauses intended to redefine the federal-contractor relationship, to transition to industrial standards and best practices, to capitalize on private sector expertise, and to increase contractor accountability and efficiencies.
- An “award term” provision to permit extension of the resulting contract for incremental periods up to 15 years beyond the initial five-year term as an incentive for superior performance.
- A requirement to retain LANL’s current workforce (excluding the laboratory director and the most senior managers) and provide comparable pay and benefits.
- A requirement that the contractor be a constructive partner in northern New Mexico by engaging regional stakeholders in issues and concerns of mutual interest, and

recognizing that giving back to the community is a worthwhile business practice.

The draft RFP’s evaluation criteria include the potential contractor’s capability to successfully manage world-class scientific research and development, the capability to achieve excellence in laboratory operations and business operations, the proposed organization structure; the proposed key personnel, including the proposed laboratory



director, and past performance.

The draft RFP is publicly available at the NNSA Service Center’s LANL M&O Contract Competition Website: <<<<http://www.doeal.gov/LANLContractRecompete/Default.htm>>>>. Responses to questions and other information about the draft RFP will also be posted to this site.

The draft RFP provides that proposals will be due to NNSA 60 days after the final RFP is issued. Proposals will be reviewed by NNSA’s Source Evaluation Board, comprised of NNSA technical and business experts, who will provide a report of findings to the NNSA

Source Selection Official. The current LANL M&O contract expires on Sept. 30, 2005. NNSA intends to select a contractor in the summer of 2005 and begin full contract performance on Oct. 1, 2005.

Los Alamos is a multi-program laboratory funded at approximately \$2.1 billion annually by NNSA, other DOE programs, other government agencies and private industry. The University of California has operated the laboratory since 1943 for DOE and its predecessors.

The laboratory is one of the largest multidisciplinary institutions in the world and the largest institution and employer in northern New Mexico. It has approximately 9,000 employees, approximately 2,600 university students and guest affiliates, and approximately 3,000 subcontractor personnel.

The principal mission of LANL is to strengthen American security by applying world-class science and technology to enhance the nation’s security through stockpile stewardship and reduce the global threat from terrorism and weapons of mass destruction. The contractor will be required to provide the intellectual leadership and management expertise necessary and appropriate to manage and operate the laboratory and to accomplish the missions assigned by NNSA.

Lockheed Martin Gets One-Year Sandia Extension

A one-year extension to Lockheed Martin's contract to manage Sandia National Laboratories has been granted by NNSA in recognition of management performance. The original five-year contract, due to expire in September 2008, will be in force until Sept. 30, 2009.

In making the decision NNSA used a novel provision in the current contract, negotiated in 2003, that permits the agency to reward good performance by executing incremental one-year extensions up to a maximum 10-year life of a contract.

"This is the first year NNSA has utilized the new award term feature in the Sandia contract," NNSA Administrator Linton F. Brooks said. "I believe this added flexibility in

contracting will lead to improved and innovative performance and in fact has already done so. Allowing a contractor to earn annual extensions for exceptional performance offers a unique and powerful incentive for leaders of management and operating contractors."

Under the terms of the contract, Sandia's performance is evaluated on a four-tier scale: outstanding (90-100), good (80-89), satisfactory (70-79) and unsuccessful (69 or less). If the contractor receives an outstanding score for overall performance, the organization becomes eligible to be considered for a one-year extension. Sandia's performance as related to NNSA's

overall mission objectives was rated outstanding (90) for fiscal year (FY) 2004. Actual contract extension depends on successfully meeting specific "stretch" goals established annually by NNSA. For FY 2004 those goals included accomplishing unfunded mission work through increased efficiencies, establishing a multi-year program to improve management, and improving contributions to the overall nuclear weapons complex.

Sandia is a multi-program NNSA laboratory with main facilities in Albuquerque, N.M., and Livermore, Calif. Lockheed Martin's Sandia Corporation has held the management and operating contract since 1993.

Livermore's First Science Facility Remembered

A ceremony at Lawrence Livermore National Laboratory (LLNL) in California marked the "end of life cycle" for the first science facility built at the laboratory.

Constructed between 1952-54, the Building 222 complex had a long history of innovation involving many programs, from early nuclear testing and project plowshare to the development of mass spectrometers and aerogel materials.

Building 222 was decommissioned, decontaminated and demolished between 2002-04. The work was accomplished through the Department of Energy/NNSA's Facility and Infrastructure Recapitalization Program (FIRP), an effort to revitalize facilities across the DOE/NNSA complex. "This clean earth spot represents a significant achievement and is part of the comprehensive planning for the

future of our site," said Michael Anastasio, LLNL director.

The four-acre site will be landscaped for employee use until a decision is made to build a new national security facility. Camille Yuan-Soo Hoo, NNSA site manager at LLNL, said that NNSA "has recognized that it is not always beneficial to maintain aging facilities" and the project to remove Building 222 was a good

example of what FIRP intended to accomplish.

Building 222 is the first building at LLNL to be demolished under FIRP.



LLNL FIRST SCIENCE BUILDING: From left: Michael Anastasio, LLNL director; Denise Robinson, LLNL institutional facilities manager; Camille Yuan-Soo Hoo, NNSA site manager at LLNL; and Glenn Mara, recently retired LLNL deputy director for operations; unveil a marker commemorating Bldg. 222.

Russian Transition Program Brings Visitors To Oak Ridge

A group of visitors from the “closed” Russian cities of Seversk and Zheleznogorsk visited Y-12 National Security Complex at Oak Ridge, Tenn. and toured selected DOE/NNSA facilities as part of a recent economic diversification workshop in Oak Ridge.

Y-12 hosted the high-level delegation through DOE/NNSA’s Nuclear Cities Initiative program. The cities of Seversk and Zheleznogorsk have histories which parallel the history of Oak Ridge. These cities were built by the Soviet government and focused almost exclusively on supporting its nuclear weapons complex. They are “closed” cities because access to them is tightly controlled.

Russia is going through the same

type of downsizing of its weapons complex that took place in the United States several years ago. The Russian government has been drawing on the United States’ experience in economic diversification for five years through the NNSA Nuclear Cities Initiative program. NNSA’s effort is to help the Russian government manage economic diversification and workforce transition.



OAK RIDGE VISITORS: Russian visitors who came to Oak Ridge were, front row: Vladimir Evseenko, RosAtom; and Nikolay Kuzmenko, mayor of Seversk; second row, (left to right) Pavel Yakushin, deputy mayor of Zheleznogorsk; Vasily Zhidkov, MCC general director; Monte Mallin, DOE-HQ program manager; Konstantin Dorofeyev, MCC director; DiAnn Fields, DOE Oak Ridge; third row (left to right) Walter Perry, DOE Oak Ridge; Bill Wilburn, BWXT Y-12; Ken Williams, program manager, Russian Transition Initiatives BWXT Y-12; and Andrey Falaleyev, interpreter.

LLNL Team Participates in Regional Competition

The Special Response Team (SRT) at Lawrence Livermore National Laboratory (LLNL) recently competed in the invitation-only “Best in the West” Special Weapons And Tactics (SWAT) competition for law enforcement SWAT teams west of the Mississippi River.

Livermore team members took first place in the two-officer combat event and second place in the team run event. The team captured a respectable 10th place overall in the



SWAT TEAM COMPETITION: LLNL Special Response Team members, from left to right: Coach Lonnie Alvey, Daniel Repose, John Sims, Tony Pirone, Team Captain James Balch, Josh Basso, Scott Batson, Chuck Johnson and Coach Kevin Morris. Justin Miller not pictured.

competition among 30 agencies. Held at the Santa Clara County

(California) Sheriffs Office facilities, the competition included courses in physical endurance, sniper firing, two-officer combat, jungle trail, combined weapons and team assault.

Competition organizers expressed special admiration for the Livermore team’s proficiency in the live-fire shoot-house events, a discipline practiced

and rehearsed rigorously at LLNL.