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# NNSA Implements Pay-Banding Pilot

NNSA has announced a project designed to attract and retain the best and brightest workers in the national security field. Known as "pay-banding," this pilot project will focus on pay-for-performance rather than pay increases based on longevity.

NNSA is starting a five-year partnership with the Office of Personnel Management to fundamentally alter major parts of the government's competitive service personnel laws and regulations. Pay-banding gives managers the ability to reward outstanding performance with higher pay.

The project will collapse the traditional 15 General Schedule pay grades into broad pay bands for new comprehensive career paths (see chart).

"NNSA needs to continue to attract high-quality people with technical skills for our important national security programs," said NNSA Administrator Thomas

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# Complex Transformation Public Hearings Complete

Thousands of citizens attended more than 80 hours of public hearings and provided more than 600 oral comments regarding NNSA's plans to transform the Cold War nuclear weapons complex into a smaller 21st century national security enterprise. NNSA officials said that there were a total of 20 public hearings over 36 days at NNSA sites and other locations and that there had been more than 85,000 comments.

"We wanted to make sure people had more than enough time to adequately express their point of view about Complex Transformation," said NNSA Administrator Thomas D'Agostino. "We heard a wide array of differing opinions on this plan and, as the size of the nuclear weapons stockpile continues to go down, I look forward to implementing the best way to make the nuclear weapons complex smaller, safer, more secure and more cost effective."

"I am happy to say that we are providing more than double the time to comment and held more public hearings than is required by the law,"

*(continued on page 2)*



**REDUCING NUCLEAR THREAT:** Uranium container inventories help provide transparency in highly enriched uranium (HEU) processing. See pages 4 and 5 for more on NNSA's HEU Transparency Program.



# Sandia Teams With Russians On Operations Readiness

Russian researchers, wanting to reduce the number of accidents at nuclear materials facilities in their country, have teamed up with several human factors and cognition experts from NNSA's Sandia National Laboratories to figure out ways to determine on any given day if workers are ready to perform critical operations.

"The Russians came to us seeking help in developing some kind of protocol for assessing human readiness for duty," said Elaine Hinman-Sweeney, who manages Sandia's U.S.-Russian collaborations for the Nuclear Weapons Science and Technology Program. "They want to know what factors might cause a person not to do well at his or her job."

The reason for their concern is that between 1945 and 1999 a total of 22 accidents occurred in nuclear process facilities in the U.S., Russia, and the United Kingdom, resulting in nine fatalities and amputations for three survivors. Nuclear process facilities include both nuclear weapons laboratories and nuclear

power plants where operations involve fissile materials that require physical and administrative controls to prevent critical or near-critical events from occurring.

Causes for the serious accidents were due primarily to human error and included failure to follow procedures, failure to notice abnormal conditions, communication errors, and inadequate supervisory monitoring of operations. Also causing the accidents were deficiencies in training, equipment and processes.

Promoting the joint research were representatives of VNIIEF - a Russian experimental physics laboratory. Russian researchers at St. Petersburg State University have invented a technology that evaluates readiness in people employed in that country's railroad system, looking at immediate skill levels and physiological indicators of emotion and stress resilience. The skill portion is specific to the

ability to operate trains.

The Russian researchers want to adapt the same technology to the nuclear materials arena, hence the reason they turned to Sandia human factors and cognition experts for assistance.

Sandians Courtney Dornburg, Hinman-Sweeney, Chris Forsythe and Conrad James attended a conference in Russia on cognitive psychology and neuroscience technology that emphasized sharing research and ideas concerning technology application of cognitive and neuroscience research. Forsythe said Sandia's cognition work with the Russian laboratory and university will have benefits in this country.

"Concern for personnel readiness for duty exists throughout U.S. critical nuclear weapons operations, just as it does in Russia," he said. "The project provides an avenue for U.S. nuclear facilities and other government agencies to learn about and potentially benefit from the research and development of the Russian scientists."

**WEB NEWS:** NNSA launched a new web site to better provide information to the public and media about its national security efforts. The new web address is [www.nnsa.energy.gov](http://www.nnsa.energy.gov). "I encourage everyone to visit our new web site," said NNSA Administrator Thomas D'Agostino. "This is an important resource for people to learn about the important national security work that we do. A top-notch organization needs a top-notch website, and with today's launch of the new NNSA website, we have just that." Information about NNSA's work, press releases, fact sheets, congressional testimony, speeches by leadership, and a host of other information is available on the website. Further content, photos and other features will continue to be added in the future. The site also has a RSS feed - a personal update feature - where users can sign up to receive notices of newly posted news releases. To sign up for the RSS feed, visit [www.nnsa.energy.gov/news/rss\\_feed.htm](http://www.nnsa.energy.gov/news/rss_feed.htm).

The screenshot shows the NNSA website homepage. At the top, there is a navigation bar with links for HOME, ABOUT NNSA, CONTACT NNSA, and SITEMAP. A search bar is located on the right. Below the navigation bar is a large banner featuring the American and Russian flags and the text "National Nuclear Security Administration" and "U.S. Department of Energy". The NNSA logo is prominently displayed. Below the banner is a horizontal menu with categories: DEFENSE PROGRAMS, NUCLEAR NONPROLIFERATION, NAVAL REACTORS, EMERGENCY OPERATIONS, NUCLEAR SECURITY, INFRASTRUCTURE & ENVIRONMENT, and MANAGEMENT & ADMINISTRATION. The main content area is divided into three columns: "LEARN MORE" with links for NEWS & INFORMATION, PROGRAMS, SITE OFFICES, SITES, and NEWSLETTERS; "TOP STORIES" featuring articles on "Nuclear Weapons Complex Transformation" and "Megaports Initiative"; and "IN FOCUS" with articles on "PRESIDENT BUSH APPROVES SIGNIFICANT REDUCTION IN NUCLEAR WEAPONS STOCKPILE", "PREVENTING NUCLEAR TERRORISM", and "RELIABLE REPLACEMENT WARHEAD".

# HEU Purchase Agreement With Russia

American families get about ten percent of their electricity from an unlikely source: highly enriched uranium (HEU) from dismantled Soviet nuclear weapons. Through the efforts of the NNSA's HEU Transparency Program, over 325 metric tons (715,000 lbs.) of HEU, the equivalent of nearly 13,000 nuclear weapons, has been eliminated from Russia's stockpile and is being used to power American homes.

This year marks the 15th anniversary of the historic agreement that started the program -

the 1993 HEU Purchase Agreement between the United States and the Russian Federation. The agreement advances U.S. nonproliferation goals by eliminating an unprecedented amount of weapons-grade fissile material. Under the twenty-year agreement, Russia will irreversibly eliminate 500 metric tons of excess HEU from dismantled nuclear weapons by converting it into fuel for U.S. commercial power reactors.

"The HEU Transparency Program is perhaps the most successful example of bilateral cooperation with Russia on our joint efforts to eliminate large amounts of fissile material and reduce the threat of nuclear terrorism," said William Tobey, NNSA's deputy administrator for defense nuclear nonproliferation.

This cooperative government-to-government effort provides security and economic benefits to both nations. First, it helps Russia reduce its nuclear stockpiles and eliminates excess weapons-usable material that would otherwise

remain at risk for potential theft or diversion. Second, the partnership between the U.S. and Russia demonstrates mutual commitment to nuclear arms reductions and progress toward nuclear disarmament under the Nuclear Non-Proliferation Treaty. Third, material derived from dismantled Russian weapons is fabricated into nuclear fuel in the

**HEU PROGRAM SUCCESS:** U.S. experts observe as highly enriched uranium metal is converted to oxide.



**LEU MONITORING:** Russian monitors at the Paducah Diffusion Plant observe non-destructive assay on a low

# Russia Reaches 15-Year Milestone

United States, where it generates nearly half of all U.S. nuclear energy.

"NNSA has been working with Russia for fifteen years to eliminate highly enriched uranium from its weapons stockpile and prevent it from being diverted to unauthorized use," said Tobey. "At the same time, about one in ten light bulbs in America is powered by material that was once in a Soviet nuclear weapon."

NNSA's HEU Transparency Program monitors facilities in both countries to ensure that the nonproliferation objectives of the 1993 agreement are met. Through twenty-four special monitoring visits each year to four Russian facilities, U.S.

experts monitor HEU from Russian nuclear weapons as it is processed and converted to low enriched uranium (LEU). Russian experts also conduct monitoring visits to the United States to ensure that the LEU is used for



peaceful purposes. This year, and each year until the agreement is completed in 2013, U.S. experts will monitor the elimination of another 30 metric tons (over 66,000 lbs.) of Russian HEU converted to LEU. Overall, the HEU Transparency Program is helping to destroy the equivalent of 1,200 nuclear weapons annually. By the agreement's completion in 2013, the equivalent of about 20,000 nuclear weapons will have been destroyed and recycled into electricity.

The program's success is made possible by expert support from laboratories and contractors across the complex. These include: Argonne, Los Alamos, Lawrence Livermore, Sandia and Oak Ridge national laboratories, New Brunswick Laboratory, B&W Y-12, Y-12 Site Office, Oak Ridge Operations Office, NSTec, Science Applications International Corporation, Pragma Corporation, Pro2Serve, Russian and Graphics, and United States Enrichment Corporation.

***"The HEU Transparency Program is perhaps the most successful example of bilateral cooperation with Russia on our joint efforts to eliminate large amounts of fissile material and reduce the threat of nuclear terrorism."***

*William Tobey  
Deputy Administrator  
for Defense  
Nuclear Nonproliferation*

Gaseous enriched

## NNSA Staff Receive Honor Awards

Thirty-one NNSA staff members, some as members of teams and some as individuals, were honored in the inaugural Secretarial Honor Awards Ceremony held recently by DOE Secretary Samuel Bodman.

Brian Waud received the Secretary's Excellence Award for his work in recovering radiological material from the Russian coastline and Eastern Europe, thereby securing material that might otherwise have been used by terrorists in radiological dispersal devices around the world.

Gilbert Weigand received the James R. Schlesinger Award for his leadership in development and use of next-generation scientific and technical tools, including the Accelerated Strategic Computing Initiative, that are the foundation of NNSA's Stockpile Stewardship program.

Former NNSA General Counsel and Acting Chief Operating Officer Tyler Przybylek received an Exceptional Service Award for his dedicated service to DOE and NNSA. Another recently retired NNSA employee, Sue Flores,



**SCHLESINGER AWARD:** Gilbert Weigand, center, receives the James R. Schlesinger award from DOE Secretary Samuel Bodman, left, and Dr. Schlesinger.

was given the Distinguished Service Award for her career in cyber security.

Eighteen individuals from across the NNSA complex were honored with a Getting the Job Done Award, named for the slogan used by the Office of Defense Programs to emphasize meeting national security commitments while integrating safety and security into those activities. The recipients are: George Allen, Richard Arkin, Wendy Baca, David Crandall, Jay Edgeworth, Nanette Founds, Daniel Glenn, Steven Goodrum, Robert King, Glenn Mora, Jeanette Norte, Daniel Rose, Martin Schoenbauer, Dan Swaim, Vince Trim, Craig Tucker and Joan Woodard.

The Secretary's Appreciation Award for noteworthy contributions to DOE beyond the scope of normal work responsibilities was given to NNSA Principal Deputy Administrator William Ostendorff and nine staff members of the Nevada Site Office. They are Wayne Morris, Darlene Smith, Deborah Chalko, John Lepperti, Joseph Ginanni, Kurt Haase, Patricia Bodin, Richard Shook and Stephen Scott.

## Office Of Defense Programs Reorganizes

NNSA's Office of Defense Programs ensures that the U.S. nuclear arsenal meets the country's national security requirements and continues to serve its essential deterrence role. When Robert Smolen began as deputy administrator for defense programs, he saw a need for change in the organizational structure of the office.

"As the nuclear weapons complex moves into the 21st century, the way in which we manage the Office of Defense Programs must change as well," Smolen said. "We interviewed more than 50 individuals from throughout NNSA and came up with an excellent plan to improve the efficiency and effectiveness of the office."

Smolen's office is now organized into four main groups led by assistant deputy administrators (ADAs): secure transportation; science, engineering and production programs; nuclear safety and operations; and strategic planning, resources and integration.

ADA for Secure Transportation Craig Tucker will continue the mission to safely and securely deliver cargos of nuclear weapons, weapon components and strategic nuclear material throughout the continental United States. The Office of Secure Transportation operates from four primary locations: Albuquerque, N.M.; Amarillo, Texas; Oak Ridge,

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# Senate Hears About NNSA Proliferation Detection

The leading-edge research on nuclear proliferation detection programs conducted by NNSA's Office of Nonproliferation Research & Development was explained and displayed for members of the Senate Armed Services Subcommittee on Emerging Threats and Capabilities at a recent Capitol Hill hearing.

In testimony, Dr. T. Jan Cerveny described her office's proliferation detection programs, including uranium and plutonium production detection, radiation detection, and remote sensing technologies. She told senators the programs are designed to provide NNSA and other U.S. government agencies with technologies for detecting and monitoring all aspects of a foreign nuclear weapons program.

The hearing included a display of ongoing research projects at NNSA's Lawrence Livermore (LLNL), Los Alamos (LANL) and Sandia (SNL) national laboratories as well as DOE's Pacific Northwest (PNNL) and Savannah River (SRNL) national laboratories with representative examples of research being conducted to detect foreign nuclear proliferation or illicit movement of nuclear

material.

Technologies displayed included the Neutron Scatter Camera (SNL) that provides imaging of threat materials from large distances and through barriers; the Gamma Tracker (PNNL), a high capability search, ruggedized, hand-held secondary container inspection tool; the Airborne Radiological Debris Collection System (SNL), a collaborative effort with the Defense Threat Reduction Agency, which is a particulate air sampling pod to compliment ground sampling post-detonation forensics; Unmanned Sample Retrieval System (PNNL and Virginia Tech), an unmanned helicopter with tethered mini-vehicle to collect ground samples for post-detonation forensics; the Remote Ultra Low-light Imaging (LANL) airborne hi-tech night camera to detect low light ground targets on moonless nights; the Broad Area Persistent Surveillance (LLNL) airborne hi-tech camera and analysis system to provide constant "stare" capability over a large target area

and track 10,000-plus moving objects for relationships to events of interest; the Natural Accumulators of Radionuclides in the Environment Field Guide (SRNL), a guide to identify terrestrial, freshwater, and marine



**CAPITOL HILL HEARINGS:** Assistant Deputy Administrator Jan Cerveny briefs Senator Elizabeth Dole on non-proliferation research programs while Mr. Randy Bell (Nuclear Detonation Detection office director) and Dr. Victoria Franques (program manager) wait to brief their technology displays.

bio accumulators of radioactive substances; and the Nuclear Detonation Detection (LANL, LLNL, SNL, PNNL) for early global and continuous identification of nuclear detonations from space, ground, and air-based systems.



**BRONZE MEDAL:** Anna Beard, senior project manager with the NNSA's Y-12 Site Office (YSO), receives the Bronze Medal Award of Excellence for her distinguished service in the national security of the United States from Robert D. Herrera, NNSA director of Infrastructure and Facilities Management (right), during a ground breaking ceremony held recently at Y-12. To her left is Dan Hoag, senior project director. Beard has 21 years of engineering and project management experience within the Department of Energy. She joined the YSO staff in 2001 and has managed over \$200 million in general and line item construction projects, including the recently completed Compressed Air Upgrades Project. Beard is currently responsible for the Potable Water Systems Upgrades Project and the Steam Plant Life Extension Project, which are currently in design and construction phases.

# Consolidation Of Special Nuclear Material Continues

A third shipment of special nuclear material from Lawrence Livermore National Laboratory (LLNL) in California to the Savannah River Site in South Carolina has been completed by NNSA under high security.

"As we've indicated before, we have an accelerated plan to remove special nuclear material from Lawrence Livermore National Laboratory," said NNSA Administrator Thomas D'Agostino. "We continue to do this safely and securely and within the timeframe we've outlined. I accelerated this project by two years, and we have now reduced our inventory at Livermore by approximately 25 percent. We are well on our way to keeping our commitment to the Livermore community and the nation as a whole."

The shipment is part of NNSA's plan to remove high-security nuclear material from LLNL by 2012. This is the third shipment to leave LLNL since the de-inventory project was initiated.

As part of its Complex Transformation, NNSA plans to consolidate nuclear materials at five sites by 2012, further improving security and reducing costs as part of D'Agostino's overall effort to transform the Cold War era nuclear weapons complex into a 21st century nuclear security enterprise. This type of material has been removed from NNSA's Sandia National Laboratories, which completes the first phase of Administrator D'Agostino's plan.



**MODERNIZED Z:** U.S. Senator Pete Domenici (N.M.) reviews an exhibit at the rededication ceremony for the Z machine at Sandia Labs. Behind Domenici is NNSA Deputy Administrator for Defense Programs Robert Smolen and to his immediate left is Sandia's Inertial Confinement Fusion Program Manager Keith Matzen. The Z machine's original and still major purpose is to provide fundamental physics data and integrated experimental tests of models that are used in supercomputer calculations that are used to certify the U.S. nuclear weapons stockpile without underground testing.

## Office Of Defense Programs Reorganizes

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Tenn.; and Fort Smith, Ark.

ADA for Science, Engineering and Production Programs Steven Goodrum is responsible for the science, engineering and production for maintaining a safe, secure and reliable stockpile. This role also includes the completion and operation of the National Ignition Facility to support stockpile assessment and certification. Several offices were consolidated under Goodrum to ensure NNSA's science and production teams work together to balance priorities across the complex.

ADA for Nuclear Safety and Operations Gerald L. Talbot, Jr. is responsible for nuclear safety, environment, safety, and health, quality assurance and the nuclear weapons complex site offices. He oversees the day-to-day operations and infrastructure of the eight major NNSA sites and he is directly responsible for executing NNSA's self-regulation of safety including serving as the office of primary interest for all safety-related directives within defense programs. In addition, his organization is responsible for the construction and long-term viability and recapitalization of the major facilities and infrastructure necessary to fulfill the defense programs mission.

ADA for Strategic Planning, Resources and Integration Deborah Monette is responsible for the development and oversight of the defense programs strategic planning effort, including transformation of the nuclear weapons complex. She has lead responsibility for management of the planning, programming, budgeting, and execution process to develop and manage the \$6 billion annual defense programs budget, as well as all other resources including human capital management, contracts and procurements. In addition, she will be responsible for integration activities that cut across all of defense programs to ensure comprehensive and consistent coverage with the best use of all available resources.