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# NNSA Seeks Input On Contracting Strategies For Weapons Complex

A request for information (RFI) on ways to improve the current contracting structure for the nuclear weapons complex, particularly the production plants, has been initiated by NNSA for input and comments from the contracting community and other interested parties.

Currently, NNSA oversees each of its eight nuclear weapons complex sites through eight different, separate management and operating contracts. NNSA is evaluating alternatives to this contracting model and is seeking to identify contracting arrangements and innovative idea - especially at its Kansas City Plant, Y-12 National Security Complex and Pantex Plant, all of whose contracts expire in 2010 -

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# Nine Metric Tons Of Plutonium To Be Removed From U.S. Defense Stocks

At the 51st General Conference of the International Atomic Energy Agency (IAEA), Secretary of Energy Samuel W. Bodman announced that NNSA will remove nine metric tons of plutonium from further use as fissile material in U.S. nuclear weapons - enough plutonium to make over 1,000 nuclear weapons.

"The United States is leading by example and furthering our commitment to nonproliferation and the Nuclear Nonproliferation Treaty by safely reducing the amount of weapons-usable nuclear material in the world," Secretary Bodman said. "As the United States continues to reduce the size of its nuclear weapons stockpile, we will

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**NEW OAK RIDGE TRAINING FACILITY:**

Mary Baird, a security police officer at the Y-12 National Security Complex, poses with a Dillon Aero Gatling Gun. Security police officers at DOE's Oak Ridge facilities, including NNSA's Y-12 National Security Complex, have a new state-of-the-art training facility. Read about the new facility on page three.



## NNSA Seeks Input On Contracting Strategies

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that will help to improve performance, reduce cost and stimulate interest and competition within the contracting community.

The purpose of the RFI is to initiate an exchange of information with industry and other interested parties, including other federal agencies, on potential acquisition alternatives and associated risks and costs for achieving NNSA's objectives while promoting vigorous full and open competition.

Expected results include reduced cost and improved performance; more uniform program execution with improved integration of resources and priorities; increased standardization of technical processes and application of best practices to improve operational effectiveness and efficiency; improved inter-site coordination, cooperation, information sharing and technical integration; improved workforce planning, maintenance of critical skills, and human capital management; and increased contractor authority and accountability-- potential increased use of industry-owned facilities and equipment.

In an effort to meet current national security requirements and to be responsive to future needs, NNSA is working to transform to a nuclear weapons complex that is smaller, safer, less expensive and that leverages the scientific and technical capabilities of NNSA's workforce.

One-on-one meetings with interested parties may be held in December and January to discuss their proposed ideas.

## Nine Metric Tons Of Plutonium To Be Removed From U.S. Defense Stocks

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be able to dispose of even more nuclear material while increasing energy and national security."

The excess plutonium will be removed in the coming decades from retired, dismantled nuclear weapons. It will be eliminated by fabrication into mixed-oxide fuel that can be burned in commercial nuclear reactors to produce electricity.

The announcement shows a clear commitment to the Bush administration's goal of having the smallest nuclear stockpile consistent with national security needs.

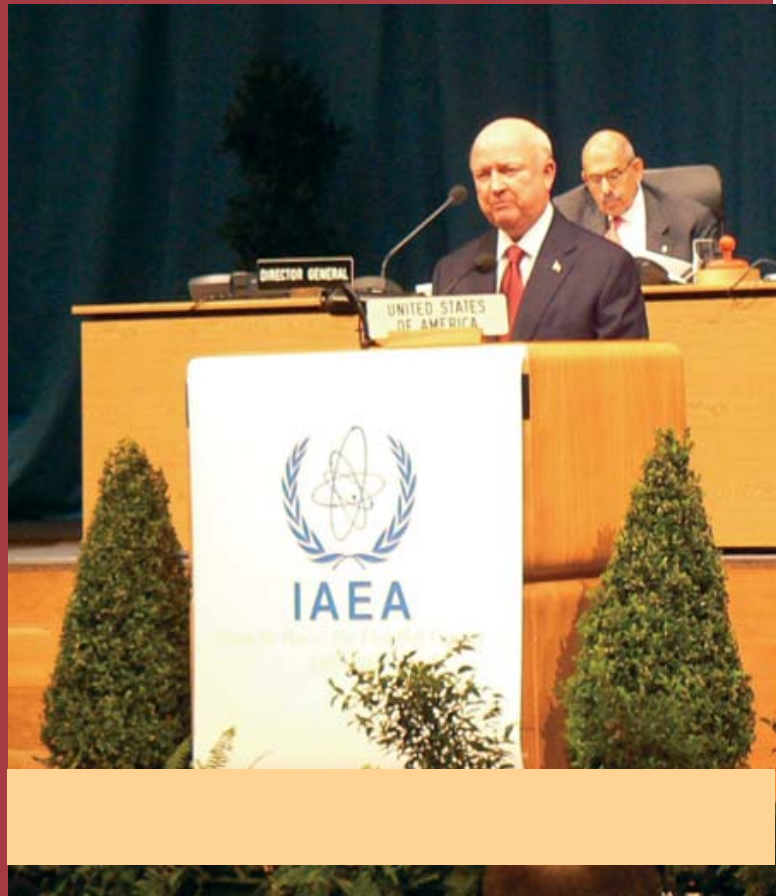
### Excerpts from Secretary Bodman's IAEA Speech:

**"We must ensure security for weapons-usable uranium and plutonium and for nuclear plants."**

**"Together, the United States and Russia have committed to remove or eliminate roughly 870 metric tons of highly enriched uranium from defense use, and 68 metric tons of weapons-grade plutonium. This is enough material to make more than 42,000 nuclear weapons."**

**"National controls and regulations for the safe and secure use of nuclear power must be in place for any nation using or aspiring to use**

**nuclear power. A nuclear or radiological incident whether as an act of terror, or human or mechanical error, or a failure of safeguards could erode public confidence and cripple the future of nuclear energy."**



# New Indoor Firing Range Expands Training Capabilities

Security police officers protecting vital national security and research facilities at the Department of Energy's (DOE) Oak Ridge Complex now have a new training tool to hone their security skills.

Federal, contractor and other key officials dedicated a new indoor firing range at the Oak Ridge Central Training Facility, which is managed by Wackenhut Services, Inc.- Oak Ridge (WSI-OR) for the National Nuclear Security Administration's Y-12 Site Office and the Department of Energy's Oak Ridge Office.

WSI-OR employs more than 800 security police officers providing protective security services for the Y-12 National Security Complex, Oak Ridge National Laboratory, East Tennessee Technology Park and the Federal Building Complex.

The new facility is the largest indoor range in DOE. The new range will broaden indoor weapons training capabilities, thus permitting security police officers to train under a variety of scenarios.

John Burleson, senior vice president and general manager of WSI-OR, said, "The new range will allow for training to be conducted at all times, day or night. It will also allow for night qualifications to be completed during daylight hours, with less downtime."

The range was constructed by SES, Inc., a local small business construction and environmental services firm that specializes in firing range construction, upgrades and remediation. Construction management and oversight was provided by the U.S. Army Corps of Engineers.

The new range is 20 positions wide, 50 yards deep, and can

accommodate both rifle and handgun rounds. The primary firearms used in the range will be the Sig-Sauer 9 mm handgun and the Bushmaster M4 5.56 mm rifle. Additionally, a classroom that can accommodate 30 students will be

engage laterally moving targets. The lighting system allows for adjustments to simulate daylight and dim light conditions, allowing for night qualifications to be accomplished during daylight



**Ribbon Cutting:** In front of the firing positions, a ribbon is cut to mark the opening of a new indoor firing range at the Oak Ridge Central Training Facility. From left to right: John Burleson, Wackenhut Services senior vice president and general manager; Ted Sherry, Y-12 Site Office manager; Ken Ivey, assistant manager for safeguards and security at the Y-12 Site Office; and Steve Wanzer, the protective forces program manager in NNSA's Office of Defense Nuclear Security.

utilized for required safety briefings and classes on various weapons deployed by the security police officers.

The range's bullet trap and target system were designed by Meggitt Defense Systems Caswell. The design of the bullet trap allows for shooters to advance as close as three yards from it while conducting live fire.

A new, state-of-the-art computerized target system can be operated from the control booth or from the range floor using a fully functioning computer tablet that operates all the system's features. It is equipped with two "running person" targets, allowing students to be trained on the skills necessary to

hours. The ventilation system, by Range Design, is a fully HEPA-filtered system with the latest design in controls, ensuring that it will meet all standards.

# Safety Highlights NNSA's Russia

NNSA's Elimination of Weapons-Grade Plutonium Production (EWGPP) program was created to alleviate the risk of weapons-grade plutonium from being used in nuclear weapons and to further international nonproliferation efforts. The program calls for the Russian Federation to halt production of plutonium in its last three weapons-grade plutonium production reactors

reactors in the small southwestern Siberian city of Seversk. The shutdown will occur once a coal-powered plant is renovated, which is on track for completion in December 2008. The new plant will provide nearly 235 megawatts of electric power to the local community.

In the city of Zheleznogorsk, EWGPP's second project will

NNSA's support, international contributions from the United Kingdom, Canada, the Netherlands, New Zealand, Finland and the Republic of Korea have been instrumental to this nonproliferation effort.

Both projects have recently hit major safety milestones.

## Seversk Marks 4.2 Million Hours of Safe Operation

In Seversk, a ceremony was held to mark over 4.2 million hours of safe operation since the project's inception in 2003. This milestone is significant because of the numerous differences in American and Russian safety culture that had to be integrated in order to create an effective hybrid of safety regulations.

Major construction work in an operating plant can be very hazardous. Maintaining safety precautions has become a central part to the work in Seversk where no employee has suffered serious injury throughout the course of the project.

An award ceremony was held in Seversk to mark the milestone. The event was attended by 150 members of the project's workforce and representatives from NNSA, Washington Group International, Inc. (the U.S. contractor that oversees the work), Rosatomstroi (the on-site Russian contractor), and the mayor of Seversk.



**WINNING SAFETY POSTERS:** Deputy Administrator for Defense Nuclear Nonproliferation William Tobey (right) and Zheleznogorsk Federal Project Director Jeff Roberson (left) presented Energy Secretary Bodman (middle) with a calendar made from the winning safety posters developed by school children in Russia to promote the importance of construction safety.

in exchange for the United States replacing the reactors with fossil-fueled power plants, which will provide the necessary heat and electricity to nearby communities. Once completed, the shutdown of these reactors will effectively eliminate the annual production of about 1.2 metric tons of weapons-grade plutonium.

EWGPP's first project will shutdown two plutonium production

construct a fossil fuel plant to supply 117 megawatts of electricity to the approximately 100,000 people who live in the vicinity. The plant is expected to be fully operational by 2010.

Including work done by Russian contractors and management costs for U.S. contractors, both projects are estimated to cost nearly one billion U.S. dollars. In addition to

# n Reactor Replacement Efforts

## Poster Contest Helps Gain Local Support For Zheleznogorsk Project

With the help of the local youth in the community of Sosnovoborsk, NNSA recently made great advances in promoting its effort for the highest standards of safety and was able to increase international cooperation in its Zheleznogorsk project. Through a safety poster contest, local elementary school students at Sosnovoborsk School #2 attracted support from local leaders for the project.

NNSA spearheaded an initiative for the school children to visit the construction site and learn first-hand how vital

each day. Students were encouraged to capture one of the many safety measures they observed on their visit in the



**LOCAL STUDENTS PROMOTE SAFETY:** After a visit to the construction site of the fossil fuel plant that NNSA is helping to build in Zheleznogorsk, Russia, students at Sosnovorsk School #2 participated in an NNSA-sponsored safety poster contest to help advertise good safety practices.



safety is to the success of the project and to their fellow Russians who work there

form of a persuasive poster.

The children with the most creative posters were awarded prizes, creating an immense sense of pride among the local community, the entirety of which was present at an awards ceremony. The event was a catalyst to build much needed local support for the project.

**PLANT RENOVATION ON TRACK:** In Seversk, Russia, NNSA is renovating a coal-powered plant so that two plutonium producing reactors can be shut down in 2008. Turbine Generator 10 (pictured), part of the Seversk coal plant, was 75 percent complete in August.



**NEW CLASS OF FUTURE LEADERS:** The third class of NNSA's Future Leaders Program includes 24 new employees in engineering, business and security occupations. The program is designed to develop young professionals' skills at managing programs and projects within the nuclear weapons complex. They are working in NNSA headquarters, the Service Center, four site offices and the Pittsburgh Naval Reactors office.

## NNSA Employees Honored For Public Service

The Partnership for Public Service honored several NNSA employees for their significant contributions to the United States at its annual Service to America Medals awards gala in Washington, D.C.

Tracy Mustin, the director of NNSA's Office of Second Line of Defense, was awarded the Homeland Security Medal for her effort to put radiological and nuclear detectors at seaports, airports and border crossings around the world to help thwart the threat of nuclear terrorism.

As part of the Rocky Flats Cleanup Team, David George of NNSA's Los Alamos Site Office was awarded the Science and Environmental Medal for the successful cleanup of the former nuclear weapons facility. The cleanup project was completed 60 years ahead of schedule and nearly \$30 billion under budget.

Brian Waud, a foreign affairs specialist in NNSA's Office of Global Threat Reduction, was a finalist for the Call to Service Medal, which is awarded for

promoting public service to future generations. Waud was nominated for his effort to secure and dispose of enough radiological material in Russia to build over 2,000 dirty bombs.

The Partnership for Public Service is a nonpartisan, nonprofit organization that awards the preeminent Service to America Medals, or Sammies, each year to celebrate the country's dedicated federal workforce. Honorees are chosen based on their commitment and innovation as well as

the impact of their work on addressing the nation's needs.

This year, only 31 finalists for nine different Sammies were chosen out of the hundreds of impressive nominations from across the entire federal government.



**SIGNIFICANT CONTRIBUTIONS HONORED:** Deputy Secretary of Energy Clay Sell (left) and Chairman and CEO of DuPont Chad Holliday (right) congratulated NNSA's Tracy Mustin (center) at the Service to America Medals awards gala in Washington, D.C. Mustin earned the Homeland Security Medal from the Partnership for Public Service for her work to install radiation detectors overseas.

## All U.S.-Origin Highly Enriched Uranium Fuel Removed From The Republic Of Korea

NNSA's Global Threat Reduction Initiative (GTRI) program recently worked with the Republic of Korea to remove all of its remaining U.S.-origin highly enriched uranium (HEU) fuel. Eleven fresh, or unirradiated, fuel assemblies containing approximately four pounds of HEU were removed from the Korea Research Reactors 1 and 2 located at the Korea Atomic Energy Research Institute in Daejeon.

The fuel assemblies were packaged in South Korea and transported to NNSA's Y-12 National Security Complex where the material will be stored until permanent disposition plans are finalized. The material will eventually be downblended into low enriched uranium that is not readily used in a nuclear weapon and instead can be used as nuclear power reactor fuel. Y-12's employees played an instrumental role in the planning prior to the mission and in the repackaging effort.

As the technical lead and shipment manager, the Savannah River Site issued the contract and managed the delivery under NNSA's program to

***South Korea is the 12th country to completely remove all of its U.S.-origin highly enriched uranium research reactor fuel.***

accept spent nuclear fuel from foreign research reactors. This shipment is Savannah River's 40th shipment and the second one to be sent to Y-12.

The GTRI program works with other countries to accept, return, and secure U.S.-original fresh and spent nuclear fuel to eventually reduce and eliminate the use of HEU in civilian nuclear reactors globally.

## Vietnam And U.S. Work Together To Promote Nonproliferation Efforts

The United States recently cooperated with Vietnam on several key nonproliferation activities, signaling each country's commitment to nuclear nonproliferation.

NNSA's Global Threat Reduction Initiative (GTRI) worked hand-in-hand with Vietnam, the Russian Federation, and the International Atomic Energy Agency to remove from Vietnam and return to Russia approximately 10 pounds of highly enriched fresh fuel and convert Vietnam's only civilian research reactor, NNSA's 50th successful reactor conversion, from highly enriched uranium to low enriched uranium fuel.

"This successful fuel return is an example of the international community working cooperatively together to reduce the threat of nuclear terrorism, and is the kind of concrete action that increases U.S., Vietnamese and international security," said William Tobey, NNSA's chief of nuclear nonproliferation.

GTRI provided technical support and the funding of approximately \$2.4 million for the operation at the Nuclear Research Institute in Dalat and will continue to provide physical protection upgrades at the Dalat reactor facility and other Vietnamese facilities with radiological sources.

In addition, Monte Mallin, director of NNSA's Office of Global Security Engagement and Cooperation, signed on behalf of NNSA an arrangement with Vietnam's Ministry of Science and Technology to work together on peaceful nuclear energy uses. Scientists from NNSA's Lawrence Livermore and the Department of Energy's Oak Ridge national laboratories will work with Vietnamese technical personnel to promote specific nuclear nonproliferation and security objectives.

"This cooperative arrangement will help Vietnam to adopt civilian nuclear energy so that it can meet its growing energy demands, and it helps Vietnam do it in ways that will reduce potential nuclear proliferation concerns," said Tobey.

The collaborative work will include reactor operations and safety, radiation protection, environmental radiological monitoring, radioactive waste disposition, nuclear safeguards and regulatory controls.

# NNSA Facilities Receive 14 R&D 100 Awards

Researchers at Sandia, Los Alamos and Lawrence Livermore national laboratories and the Y-12 National Security Complex have earned 14 R&D 100 Awards this year. The awards were presented by *R&D Magazine* in recognition of the 100 most technologically significant products introduced into the marketplace over the past year. The awards, sometimes called "Oscars of invention," were handed out this month at a black tie dinner in Chicago.

## Sandia National Laboratories Awards

- ArcSafe© with Pulsed Arrested Spark Discharge, a patented electrical wiring diagnostic effective in detecting and locating wiring insulation defects in commercial aircraft
- Mode-Filtered Fiber Amplifier, a breakthrough technology that enables fabrication of practical, high-power, high-beam-quality laser sources that are compact, rugged, and extremely efficient
- Novint Falcon and Novint/Sandia 3D-Touch Software (joint), the first controller that makes high-fidelity interactive three-dimensional touch possible and practical for consumer computing applications
- Self-Assembling Process for Fabricating Tailored Thin Films, a simple, economical nanotechnology coating process that enables development of nanoparticle thin films with architectures

and properties unattainable by any other processing method

- ElectroNeedle™ Biomedical Sensor Array, a device that, when pressed against the skin, can make rapid, multiplexed diagnostic measurements in a point-of-care setting

## Lawrence Livermore National Laboratory Awards

- Micro Electro Mechanical System-based Adaptive Optics Scanning Laser Ophthalmoscope, a new retinal imaging instrument
- A medical device to detect pneumothorax, caused when air is trapped between the chest wall and the lung - Cleveland-based Electrosonics Medical Inc. has licensed this technology and shares the award
- New optics used in the National Ignition Facility, a fusion research unit at the laboratory
- A radiation detection system used to seek out illegal nuclear material while moving at up to 25 miles per hour
- New software called Hype that lets supercomputers work even faster

## Los Alamos National Laboratory Awards

- Camera on a Chip, a 2-centimeter by 2-centimeter microelectronic device that

combines an array of silicon photosensors and a metal-oxide-semiconductor chip with control-and-processing circuits

- The Portable Acoustic Cytometer, gives researchers and healthcare providers around the world a laboratory method for examining, sorting, and counting microscopic particles, such as DNA, that have been suspended in a stream of fluid for analysis.

## Y-12 National Security Complex Awards

- Rapid Deployment Shelter System, originally designed as a mobile surgical suite for the U.S. Army, offers substantial protection against small-arms, as well as nuclear, biological and chemical contamination
- Personal Annunciation Device may be the world's smallest self-arming multiple-use accident notification device - the prototype of the non-nuclear based, radio frequency receiver is about the size of a pager

NNSA News is published monthly by the Office of Congressional, Intergovernmental and Public Affairs. David A. Campbell, Director. Editors: Victoria Barq, Al Stotts, Julianne Smith, Bryan Wilkes. Design: Barbara L. Courtney. Contributors Include: Courtney Henry, Wackenhut Services, Inc.; Todd Hanson, Los Alamos Laboratory; Tami Moore, Sandia Site Office; Michael Padilla, Sandia Labs; Jerry Truax, NNSA HQ; Steve Wyatt, Y-12 Site Office; Gordon Yano, Lawrence Livermore Laboratory