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Nuclear Weapons Dismantlements Up 20 Percent

U.S. nuclear weapons stockpile dismantlements have increased by 20 percent over last fiscal year's level according to NNSA Administrator Thomas D'Agostino. The increase was achieved through enhanced productivity of the workforce and improved efficiencies in the process.

In 2004, President Bush directed that the size of the nuclear weapons stockpile be reduced nearly 50 percent by 2012. Because this goal was met five years early, he ordered an additional reduction of almost 15 percent by 2012, which will put the stockpile at its lowest level since the Eisenhower era and at about one-quarter of its level at the end of the Cold War.

NNSA is in charge of dismantling retired weapons as the stockpile number goes down. A complex process, dismantlement involves almost all

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NNSA Approves Analysis Of Plan To Transform Nuclear Weapons Complex

Administrator Thomas D'Agostino has approved the final environmental analysis of NNSA's plan to transform the aging, Cold War-era nuclear weapons complex into a 21st century national security enterprise. Some examples of NNSA's preference - or preferred alternative - for the future of the enterprise includes these preferred actions:

- **Consolidation of High-Security Special Nuclear Material:** NNSA would continue to consolidate this material from seven sites down to five. NNSA has already completed its shipments from Sandia National Laboratories and will do so at Lawrence Livermore National Laboratory by 2012.
- **Plutonium Manufacturing and R&D:** Los Alamos National Laboratory would provide a consolidated plutonium research development and manufacturing capability.
- **Uranium Manufacturing and R&D:** Y-12 would continue as the uranium center producing components and canned subassemblies,

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CRITICALITY SAFETY: NNSA's Device Assembly Facility at the Nevada Test Site (NTS) is home to experiments like this one, a test of how well nickel acts as a neutron reflector. Pictured is a 4.5 kg ball of alpha-phase plutonium surrounded by three inches of nickel nesting shells. Data from the Energy Nuclear Criticality Safety Program test will be used to develop criticality safety benchmarks. See pages 4 and 5 for more on the diverse activities at NTS.

Nuclear Weapons Dismantlements Up 20 Percent

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of the sites within the nuclear weapons enterprise. First, NNSA's design labs work with the production facilities to identify and mitigate any hazards that may arise before a particular weapon type is to be dismantled. The labs apply the unique knowledge they gained during the original design process and during surveillance operations for each weapon in the stockpile.

When a weapon is retired, it is brought to NNSA's Pantex Plant where the high

"NNSA continues to dismantle nuclear weapons in a safe and efficient manner, ensuring that they can no longer be used again. These efforts reflect President Bush's goal of achieving the lowest number of nuclear weapons consistent with national security."

Thomas D'Agostino
NNSA Administrator

explosives are removed from special nuclear material and the plutonium core is removed from the weapon. The plutonium is placed in highly secure storage at Pantex. Eventually, the excess material will be

turned into fuel at the Mixed Oxide (MOX) Fuel Fabrication Facility at the Savannah River Site. Part of the weapon then moves to the Y-12 National Security Complex where the uranium components are removed and stored. Then, the other non-nuclear components are sent to the Savannah River Site (e.g., gas storage devices) and the Kansas City Plant (e.g., electrical components) for final processing.

Throughout the entire dismantlement process, NNSA relies on its Office of Secure Transportation to ensure that the special nuclear material is safe and secure during transport from site to site and that the shipments are on schedule.

As more retirements are announced, NNSA is able to absorb more weapons into the dismantlement queue, ensuring that the original timeline for dismantling U.S. nuclear weapons is kept. Dismantlements to date have included B61 modifications 3, 4 and 7, W62s and W80s. The dismantlement increase comes as NNSA continues to work with over 100 countries to prevent the spread of nuclear weapons.

NNSA Approves Final Analysis Of Plan To Transform Nuclear Weapons Complex

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and conducting surveillance and dismantlement.

- **Assembly/Disassembly/High Explosives Production and Manufacturing:** Pantex would remain the assembly/disassembly/high explosives production and manufacturing center.
- **Tritium R&D:** NNSA would consolidate tritium research and development at the Savannah River Site.

"The world is changing and we are changing along with it," D'Agostino said. "The number of U.S. nuclear weapons is shrinking, budgets are flat or declining, and we need a smaller, more secure, more efficient infrastructure that reflects these realities, and yet retains our essential capabilities and enables our workforce to perform this vital mission."

The environmental analysis, or Supplemental Programmatic Environmental Impact Statement (SPEIS), analyzed several different options for the future of the nuclear weapons complex. One of those options outlines D'Agostino's preference for transformation and would consolidate missions and facilities within the existing NNSA sites, known as distributed centers of excellence. While not eliminating any sites, NNSA would reduce redundancies in missions, capabilities, and facilities at all of them, eventually saving money in the future.

"...we need a smaller, more secure, more efficient infrastructure..."

Thomas D'Agostino
NNSA Administrator

In December 2007, D'Agostino announced the draft SPEIS. Since that announcement, thousands of citizens attended more than 80 hours of public hearings and provided more than 600 oral comments regarding the proposed transformation plan. During the public comment period there were a total of 20 public hearings over a 36-day span at NNSA sites and other locations. In total, NNSA received over 100,000 comments.

NNSA officials went through each comment while preparing the final SPEIS. A summary of the preferred alternative and other information on the proposal can be found at NNSA's web site: www.nnsa.energy.gov.

The Notice of Availability of the final SPEIS was posted in the Federal Register on October 24. The preferred alternative for the SPEIS reflects NNSA's current preference, but it is not a decision. NNSA will announce its final implementation decisions in one or more records of decision roughly 30 days after posting in the Federal Register.



INTERAGENCY COOPERATION: Air Force Chief of Staff Gen. Norton Schwartz (second from left) met with Secretary of Energy Samuel Bodman (center) and NNSA Administrator Thomas D'Agostino (far left) to discuss how the Air Force and NNSA could reinvigorate interagency cooperation on the nuclear mission. Also in attendance were Robert Smolen, NNSA deputy administrator for defense programs (second from right) and Brig. Gen. Jonathan George, NNSA principal assistant deputy administrator for military application.

First Linton F. Brooks Service Award Given

Joseph Romero, a staff member at NNSA's Service Center in Albuquerque, N.M., is the recipient of the first Linton F. Brooks Medal for Public Service.

"Joe contributed greatly to developing and implementing new business system models in support of NNSA's nuclear nonproliferation programs," said NNSA Administrator Thomas D'Agostino. "His drive and commitment to our important national security work is an excellent example of Ambassador Brooks' work ethic and dedication to public service."

Romero is a general engineer at NNSA's Service Center. His many accomplishments have included developing an improved process for approving and implementing changes to NNSA's Second Line of Defense contracts and implementing a management and

tracking tool which ensures critical contracting actions for NNSA's Global Threat Reduction Initiative are addressed in a timely manner. His work has helped NNSA and American taxpayers save money.

from the University of New Mexico and served four years in the U.S. Marine Corps. Romero lives with his wife, Teresa, and their two children in Peralta, N.M.

The Linton F. Brooks Medal for Public Service was established to recognize early in their career those employees whose actions and deeds serve to exemplify the spirit of public service commitment and achievement manifested during the leadership tenure of NNSA's past administrator, Ambassador Linton F. Brooks. It was his dedication, vision and grasp of NNSA's unique national security mission that successfully guided



BROOKS AWARD: (Pictured from left) Ambassador Linton F. Brooks, NNSA Service Center Director Karen Boardman, Joseph Romero, and NNSA Administrator Thomas D'Agostino.

Romero began his career with the U.S. Department of Agriculture's Forest Service in March 2004 before joining NNSA in January 2006. He has a Bachelor of Science in civil engineering

NNSA during five years of organizational and mission transformation. Recipients of the award must have less than five years of federal and professional experience.

Changing NTS Mission Keep

Far removed from the distant past memories of atomic testing, the sprawling 1,375-square-mile Nevada Test Site (NTS) remains a gem in the nuclear complex.

With the front entrance to the site located 65 miles from Las Vegas, the NTS has seen its primary mission of stockpile stewardship evolve with 21st century challenges. It now hosts some of the most advanced scientific testing in the country and uniquely allows for the handling of radioactive materials to support a variety of government-wide programs that are essential to the nation's needs.

Counter Terrorism Operations Support Program Readies First Responders

The United States continues to improve its ability to respond to complex emergencies thanks to the highly specialized Counter Terrorism Operations Support program sponsored by the Department of Homeland Security's Federal Emergency Management Agency.

More than 61,000 state and local emergency response personnel have learned to take immediate, decisive action to prevent or mitigate terrorist use of radiological or nuclear weapons of mass destruction,

such as improvised nuclear devices and radiological dispersal device (or "dirty bombs"). The performance based, hands-on training is carried out in realistic scenarios at the NTS.



RAD TRAINING: First responders from around the country gain valuable training in detecting radioactive materials in realistic scenarios in the Counter Terrorism Operations Support Program at the Nevada Test Site.

A TRU Approach To Closure

Legacy transuranic (TRU) waste has been managed at the NTS for nearly 35 years. After

completing 48 shipments to the Waste Isolation Pilot Plant in November 2005, Nevada's TRU waste project has been focused on the final chapter preparing 58 oversized boxes for disposal. Contents of the oversized boxes are currently undergoing characterization and repackaging. More than half of the boxes are complete, with a third of the volume characterized as TRU waste. The remaining TRU inventory will be completed and shipped off-site by December 31.

The characterization and repackaging process required the

implementation of detailed safety documentation, facility modifications, and worker protective measures.

Ensuring the safety of workers is paramount, especially considering that operations are conducted under an accelerated schedule.

According to Gary Pyles, the project director, "We are pleased with the progress and safety measures in place. It's rewarding to see this project into closure."

DAF, CEF Upgrades Facilitate Stockpile Mission

The Device Assembly Facility (DAF) at the site recently has undergone upgrades that will enhance the site's stockpile stewardship role.

National Security Technologies (NSTec) is approximately 80 percent complete with construction of the Criticality Experiments Facility, a project made up of a consortium of team members representing Los Alamos National Laboratory, NSTec, Lawrence Livermore National Laboratory, Wackenhut Services Inc. (WSI), and the Nevada Site Office. The scope of the project is to retrofit



ENHANCED SECURITY: ACAP weapons and capabilities, are a deployed at NNSA's Nevada Test Site.

ing Pace With 21st Century

and upgrade a section of the DAF with four Los Alamos machines that will perform valuable

experiments that are vital to national security.

The DAF also has been assembling targets for the Joint Actinide Shock Physics Experimental Research facility. These high-tech advancements will help ensure the principle role of the NTS, or scientific testing of the nation's stockpile, continues for many years to come.

NTS Security Upgrades In Full Swing

Transitioning the NTS from underground nuclear testing to more diverse programs required major upgrades to security. The NTS leads the charge with 21st century technology. Stephen Scott, NNSA technical security engineer, is supervising a five-year plan to introduce a host of new technologies at the DAF. Scott and WSI engineers selected a group of 22 systems to upgrade the security infrastructure. Work began in earnest in 2005 and continues today.

State-of-the-art surveillance, detection and weapons equipment upgrades were selected:

- ACAV IIs - Armored vehicles equipped with specialized weapons and capabilities
- Towers - Remote operated automatic weapons (ROWS)
- Boomerang sniper detection system
- MDARS remote controlled surveillance vehicles (automated patrol robots)
- Multi-mode unattended ground sensors
- An augmented reality training simulator
- Chemical attack sensors.

Scott says some of the new technologies are in use while others are part of future site security upgrades scheduled for completion by 2010.

Additionally, NNSA and WSI created the Technology Deployment Integration Center at Building 114 in Mercury at NTS. The facility is accessible to both vendors and laboratories for field testing and new system debugging before deployment.



Y IIs - Armored vehicles equipped with specialized among the new technologies currently being st Site.



OST AT NTS: Mike Flynn of NNSA's Office of Secure Transportation (OST) listens to a question from Las Vegas television reporter George Knapp during an interview at the Nevada Test Site. OST is now using Area 12 at the Nevada Test Site for specialized training.

FUTURE NUCLEAR SAFEGUARDS:

NNSA Assistant Deputy Administrator Adam Scheinman (left) joins Director General John Carlson (right) of the Australian Safeguards and Nonproliferation Office (ASNO) at the Next Generation Safeguards Conference to discuss technical, political and institutional challenges to implementing effective worldwide nuclear safeguards in the future. In September, NNSA and ASNO agreed to extend nuclear safeguards cooperation for ten years, building on the successful partnership dating back to 1992.



NNSA Program Wins GSA Achievement Award

NNSA Administrator Thomas D'Agostino wants the nuclear weapons complex to work together to bring business and economic efficiencies to the complex, so the agency's Roof Asset Management Program (RAMP) is doing just that. In fact, the success of the program has been recognized by the General Services Administration (GSA), which recently selected it as the winner of the 2008 GSA Achievement Award for Real Property Innovation.

RAMP is the first multi-site construction program, and one NNSA considers a model for other activities. RAMP manages roofing repairs and replacements at

six different sites under one contract. Participating sites are: Kansas City Plant, Pantex Plant, Y-12 National Security Complex, Los Alamos National Laboratory, Lawrence Livermore National

performed under RAMP added \$19.3 million in value to NNSA's roofing portfolio through life extending repairs, while saving \$7 million in construction costs and eliminating \$46 million in

deferred maintenance from the 2003 congressional baseline. The program replaced 1.9 million square feet of roof with more energy efficient, sustainable roofs, resulting in energy cost savings exceeding 50 percent. Additionally, workers maintained an exceptional safety record.

"The Roof Asset Management Program has provided a vehicle



TEAM NNSA: Members of the Roof Assessment Team pose with the plaque they received for winning the 2008 General Services Administration Award for Innovation. More than seventeen federal agencies submitted 40 nominations for the award.

Laboratory and the Nevada Test Site. RAMP has

already amassed an impressive list of accomplishments. Work

to ensure major, lasting improvements to the NNSA complex," said Dino Herrera, NNSA director of infrastructure and facilities management. "It is an example of the use of best industry practices and excellent corporate facility management."

Progress Continues On NNSA MOX Facility

NNSA has made significant progress on the construction of the U.S. Mixed-Oxide (MOX) Fuel Fabrication Facility that is being built at the Savannah River Site near Aiken, S.C. In September, 100 percent of the MOX facility reinforced concrete foundation was completed. At the same time, the MOX project marked 1.2 million safe work hours.

As the cornerstone of NNSA's plutonium disposition program, the MOX facility supports a 2000 Plutonium Management and



Disposition Agreement between the United States and Russia, under which each country committed to dispose of at least 34 metric tons of weapons-grade plutonium,

MOX SUCCESS: In September, NNSA completed 100 percent of the MOX facility foundation.

enough material for thousands of nuclear weapons.

Other recent milestones for the MOX project include meeting the NNSA Administrator's goal to install more than 40,000 cubic yards of reinforced concrete before the end of fiscal year 2008 and completing the construction of a support facility that will be used to assemble process equipment for the MOX facility.

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John Brice Celebrates 50th Anniversary

Fifty years ago only about half of NNSA's Kansas City Plant employees had been born, but four current plant employees were already on the job.

In August 1958, machinist Sam Krist had been at work for nearly six years.

Engineering design specialist Ray Rempe and electrician William Wagoner were nearing their one-year anniversaries. And on August 11, 1958, John Brice came to work for the first time at the Kansas City Plant.

These four employees, the most senior at the plant, have combined service and experience exceeding 207 years.



John Brice

In 1958, the Bendix Corporation operated the plant for the Atomic Energy Commission. One of the programs the plant supported was the Talos Missile, a long-range surface-to-air guided missile for the Navy. Etched printed circuits - considerably larger than circuit boards of today - were a new trend in electronics.

Brice was originally hired in as a production worker, and became a salaried employee a few years later, in 1967. Today Brice is still on the job as a senior engineering technologist in test equipment, working with some of the same equipment he built 30 years ago. He supports about 75 engineers in test equipment, about four more in radars, and a few more in other areas of the business.

The quality of the work and the dedication of the employees are part of what have kept him at the Kansas City Plant for half a century.

"It has been an intellectual high for me to work on many of the programs we've worked on over the years," said Brice. "We've got great engineers, great managers, great technical people. I've worked with the very best this country has to offer, and I have learned from each and every one of them. Working with these people has made me better."

NNSA Hosts Nuclear Security Summit At Y-12 National Security Complex

A nuclear security summit was recently hosted at NNSA's Y-12 National Security Complex, at which participants from a variety of federal agencies including the U.S. Department of Defense (DoD) and the Nuclear Regulatory Commission (NRC) met to share technical solutions and research to enhance collaboration that will ensure greater nuclear security across the country.

"We are applying innovative approaches in all areas of nuclear security to fully protect our national assets," said NNSA's Chief of Defense Nuclear Security Bradley Peterson. "Nuclear security is one of NNSA's highest priorities."

NNSA is responsible for securing thousands of nuclear weapons and components, and hundreds of tons of special nuclear material in all forms, shapes and sizes. The eight sites in NNSA's nuclear weapons complex are some of the most secure facilities in the world Peterson said, because NNSA uses top quality modern security technology, deploys the most sophisticated

assets, and has a well-trained, world-class protective force to keep nuclear weapons and material secure.

After the 9/11 terrorist attacks, NNSA took steps to protect its critical facilities from vehicle bombs, strengthened its facilities against attacks, and improved the training and equipment of its protective forces. A key to improved security has been consolidating nuclear material and reducing facility size as part of NNSA's transformation efforts.

Although NNSA hosted the nuclear security summit for the first time this year, the participating

agencies have been coming together to enhance governmental cooperation on nuclear security protection since 2003. NNSA is also a founding member of the Technology Senior Steering Group, which directs U.S. government interagency collaboration on nuclear security and includes leaders from Department of

Energy, NNSA, DoD, and the NRC.

"The NNSA has made tremendous strides in recent years to beef up security in all areas," added Peterson.



Oak Ridge Central Training Facility Shoot House



HEUMF: Helping to turn the final bolts of the Highly Enriched Uranium Materials Facility, which has completed its final construction milestone, are (from left) NNSA Assistant Deputy Administrator for Nuclear Safety and Operations Gerald Talbot, NNSA Deputy Administrator for Defense Programs Robert Smolen, B&W Y-12 President and General Manager Darrel Kohlhorst, Bechtel Systems and Infrastructure Inc. President Scott Ogilvie, B&W Y-12 Board of Managers Chairman Bob Cochran, and NNSA Y-12 Site Manager Ted Sherry.