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NNSA '09 Budget Hearings Begin

Annual congressional budget hearings are underway in Washington, D.C., before Senate and House authorization and appropriation committees. The President's FY 2009 budget request for NNSA totals \$9.1 billion, a decrease of \$35 million, or .4 percent less than the fiscal year (FY) 2008 appropriated level.

In recent testimony before the House Armed Services Subcommittee on Strategic Forces, Deputy Administrator for Defense Programs Robert Smolen and Deputy Administrator for Defense Nuclear Nonproliferation Will Tobey emphasized that NNSA is managing its program activities within a disciplined five-year budget and planning time frame. NNSA is also successfully balancing the administration's high priority initiatives to reduce global nuclear danger as well as future planning for the nation's nuclear weapons complex within an overall modest growth rate.

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D'Agostino And Tobey Discuss Achievements In Geneva And Vienna

The United States is accelerating efforts to dismantle its nuclear weapons while bringing the overall U.S. nuclear stockpile down dramatically, with plans to reduce its nuclear weapons complex over the next decade, NNSA Administrator Thomas D'Agostino and Deputy Administrator for Defense Nuclear Nonproliferation William Tobey recently told audiences at the Conference on Disarmament in Geneva and the International Atomic Energy Agency (IAEA) in Vienna. They said the U.S. will also continue to play a leading role in reducing the threat of nuclear terrorism around the world.

"We briefed both the IAEA and the Conference on Disarmament on the United States record of compliance with the Nuclear Nonproliferation Treaty and other U.S. efforts to advance nonproliferation," D'Agostino said. "This includes a 50 percent reduction in the U.S. nuclear arsenal since 2001, dismantling greater numbers of nuclear weapons, our plans to shrink our nuclear weapons complex, and our cooperation with over 100 nations in nuclear

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GQ CLEARANCE: Three well dressed federal couriers pose in front of an Atomic Energy Commission weapon transportation vehicle in this 1960s-era photo. See pages four and five for a feature on the history of what is now NNSA's Office of Secure Transportation.

Accomplishments in Geneva and Vienna

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nonproliferation and threat reduction work."

Last October, D'Agostino and Tobey gave a similar briefing at the United Nations First Committee in New York City.

In 2004, President George W. Bush unilaterally signed a directive to cut the entire U.S. nuclear weapons stockpile in half by 2012. That goal was met five years early by NNSA and the Department of Defense. In December 2007, President Bush announced a further reduction of nearly 15 percent in the overall stockpile by 2012. When that is completed, the overall U.S. stockpile will be less than one-quarter its size at the end of the Cold War.

"With the reductions ordered by President Bush in the U.S. stockpile and NNSA's nuclear nonproliferation and threat reduction work overseas, the United States continues to show leadership in these important areas," D'Agostino said.

D'Agostino and Tobey also met with representatives from a number of nations to discuss possible international contributions to NNSA's global nonproliferation work. To help fund these highly successful programs, \$45 million has already been contributed or pledged.

Dr. Christopher Ford, the State Department's nuclear nonproliferation global representative, joined the NNSA leaders in the presentations.

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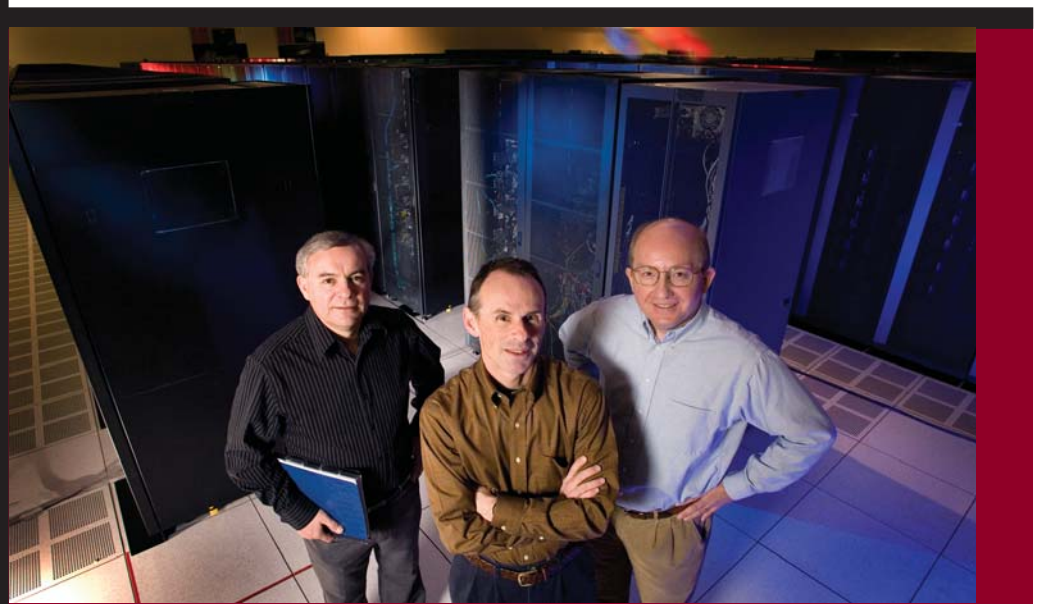
The NNSA budget justification contains information for out-years as required by the National Defense Authorization Act for FY 2009. Part of this law, called Future-Years Nuclear Security Program (FYNSP), requires the administrator to submit to Congress each year the estimated expenditures necessary to support NNSA's programs, projects and activities for a five-year fiscal period, in a level of detail comparable to that contained in the budget.

The FY 2009-2013 FYNSP projects \$47.7 billion for NNSA programs through 2013. That is a decrease of about \$2.3 billion over last year's projections. While the FY 2009 request is slightly smaller than last year's projection, the out-year budget proposals increase starting in FY 2010.

Weapons activities are funded at \$6.62 billion in the FY 2009 President's budget, an approximately 5.1 percent increase over the FY 2008 appropriated level, which will adequately provide for the safety, security, and reliability of the nuclear weapons stockpile and supporting facilities and capabilities.

The FY 2008 Consolidated Appropriations Act did not contain funding for the Reliable Replacement Warhead (RRW). Administrator Thomas D'Agostino said recently that the administration believes the warhead features which are characteristic of the RRW are the right ones for ensuring the future of the nation's nuclear deterrent, so the FY 2009 request includes \$10 million to continue RRW studies.

The administration's FY 2009 request for NNSA's Defense Nuclear Nonproliferation Program totals \$1.247 billion, which reflects a return to measured growth from the FY 2007 appropriation level, but a decrease from the artificially high level of the final FY 2008 appropriation, which included a large congressional increase over the President's request. The decrease also reflects congressional action to transfer funding for some construction projects to other NNSA and Department of Energy offices. It also anticipates a decrease of other major construction activities following completion of major elements of the program to shut down plutonium producing reactors in Russia.



COMPUTATIONAL CORNERSTONE: Los Alamos computer scientists Manuel Vigil, John Turner, and Josip Loncaric (right to left), stand in front of Roadrunner, the high performance computer designed with IBM to achieve a sustained operating speed of 1,000 trillion calculations each second. Its powerful clusters of nodes will process information to enable the laboratory to use Roadrunner for advanced physics simulations and predictive simulations of complex scientific processes. Weapons science applications that can be processed by Roadrunner are applicable to all three of NNSA's laboratories.

Secretary Bodman And Rosatom Director Kiriyenko Discuss U.S.-Russia Nuclear Security Progress

U.S. and Russian efforts to keep nuclear weapons and weapons material out of the hands of terrorists were the focus of recent discussions by Secretary Samuel W. Bodman and Russian Federal Atomic Energy Agency (Rosatom) Director Sergey Kiriyenko in Washington.

Bodman and Kiriyenko discussed progress made and next steps to shut down Russian plutonium reactors this year, dispose of 68 metric



DISCUSSING PROGRESS: Secretary Bodman met with Director Kiriyenko in Washington, D.C. to discuss areas of cooperation between the United States and Russia.

tons of plutonium and cooperate to expand the use of civilian nuclear energy. Bodman also highlighted the importance of working together to meet the 2008 deadline for completing nuclear weapons site security upgrades under the Bratislava Initiative.

"Joint efforts to safeguard materials and safely shut down legacy sites are a key area of U.S.-Russian cooperation and are essential to keep nuclear weapons safe and secure," Bodman said. "As we increase

cooperation to expand the use of civilian nuclear energy worldwide through the Global Nuclear Energy Partnership, we must also work to complete the important nuclear security missions outlined by Presidents Bush and Putin."

Bodman said additional progress has been made through the Bratislava Initiative following NNSA's completion of upgrades at more than 85 percent of Russian nuclear warhead, material and missile storage sites of concern. Bodman and Kiriyenko agreed to take steps to ensure security enhancements will be maintained far into the future. Bodman also highlighted the work underway at the remainder of Russian sites that will be completed by the end of this year.

Kiriyenko informed Bodman that the two weapons-grade plutonium production reactors in Seversk, Siberia, are now operating at half power, significantly reducing plutonium production. NNSA helped start up a boiler and steam turbine generator at the partially completed Seversk fossil fuel plant in December. This allowed the reactors, which not only produced plutonium during the Cold War, but also powered the town, to operate under an alternating mode, enabling one reactor to shutdown while the other is running.

The two plutonium reactors are ahead of schedule for complete shutdown and are planned to cease operations before the December 2008 deadline.



CLEAN SWEEP: Technician Tony Mocadlo scans a package at the Sandia National Laboratories Hazardous Waste Management Facility. Sandia waste management facilities in New Mexico, Nevada and California have passed recent state regulatory agency inspections with no issues. A team of fifteen inspectors from the New Mexico Environment Department (NMED) conducted an unannounced inspection of all hazardous waste accumulation areas (including over 350 satellite accumulation areas) and permitted areas. According to NMED, it is the first time a Resource Conservation and Recovery Act inspection of a federal facility in New Mexico has had no issues. The Nevada Division of Environmental Protection conducted an inspection of hazardous waste activities at Sandia National Laboratories' Tonopah Test Range with no issues, and California regulators inspected hazardous waste activities at Sandia National Laboratories/California with no issues.

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Road Warriors: NNSA's Office

In 1942 when the Manhattan Engineering District was created to develop and produce an atomic bomb, it became necessary to devise methods, procedures and equipment for securely transporting the classified radioactive materials needed at Los Alamos to build a bomb and later to test it at Trinity Site in southern New Mexico. A cadre of 45 drivers and 15 trucks was assembled as "the largest undercover truck line" in New Mexico.

Today, NNSA's Office of Secure Transportation (OST) is the heir of that original effort, using some of the same Manhattan District techniques such as unmarked tractor-trailers, escorted convoys and air transportation of some components.

Still headquartered in New Mexico, OST has evolved and refined its operations in many ways, including the use of high technology for cargo security, vehicle robustness, continuous convoy communication and tracking and an unparalleled training regimen for its federal agent force that protects all aspects of the operation.

The contemporary version of OST was established in 1975 as the Transportation Safeguards Division under the former Atomic Energy Commission as it was converted to the Energy Research and Development Administration. The Department of Energy (DOE) succeeded that reorganization and now, of course, NNSA operates within DOE to manage the nuclear weapons complex.

From 1951 to 1987, the height of the Cold War, the so-called "White Train" was also

used to move nuclear weapons from NNSA's Pantex Plant in west Texas to military weapons depots. Ultimately the white trains had to be painted other colors to

avoid public curiosity about the rail shipments. Last year eleven



BACK OFF: Armed couriers stand in front of an escort vehicle in the 1970s.

original cars and an engine were transferred to the Amarillo Railroad Museum. One of the armored coach cars and an armor-plated weapon carrier will eventually be on display at the National Atomic Museum in Albuquerque, N.M.

The first Safe Secure Trailer (SST) for weapon and component delivery was developed in the 1970s and then weapons-level protection was mandated for all shipments involving significant quantities of special nuclear materials (SNM). SafeGuards Transporters, specially constructed 40-foot highway trailers, have been designed to replace the 1970s model.

The walls of the newer transporters incorporate



WHITE TRAIN: A safe, secure rail car used until 1987 to move weapons and components from the Pantex Plant in Texas.

Force Of Secure Transportation

special deterrent and denial features and the doors are secured with electronically coded locks, making the vehicles highly resistant to unauthorized entry and attack and to provide a high degree of cargo protection in the event of a serious accident, including fire. Tiedown equipment assures additional safety by holding cargo in place under potentially high stress situations.

Today, the system serves various shippers and receivers of high security (Category I and II) SNM and other sensitive materials at sites located throughout the United States. OST has accumulated over 100 million miles of over-the-road experience transporting NNSA and DOE-owned cargo with no fatal accidents or release of radioactive material.

But such success is the only option for the men and women of OST, given the life and death importance of their mission to protect nuclear weapons and materials and the public from accidents or potential attempts by terrorists or other criminals to divert national security shipments.

Craig Tucker, assistant deputy administrator for OST, said the only way to maintain continuous success is to continuously train.

Most agents are former members of the military or civilian law enforcement agencies who come into NNSA with advanced security skills that are then enhanced through OST's tough training regimen.

First, agent candidates have to make it through the 20-week OST academy at Ft. Chaffee, Ark., that provides training in firearms, tractor-trailer operations, tactics, and use of force along with challenging daily fitness activities and additional classroom work. Failing any single aspect of the

“Our agents are equipped and trained to overwhelm any potential adversary. We would be a very hard target for anyone to defeat.”

Craig Tucker,

OST Assistant Deputy Administrator

academy eliminates a candidate from the program. Once graduates assume their federal agent role they have ongoing requirements to meet. Every six months they must qualify in a one-mile run and forty-yard dash along with firearms qualifications and first aid training. There are defensive driving tests every two years.



RIGOROUS TRAINING: Agent candidates undergo extensive training to prepare them for their important mission of protecting nuclear weapons, materials and the public from accidents and terrorist threats.

nature of the cargoes that agents transport and protect, they are also required to participate in NNSA's Human Reliability Program, which is an enhanced security and safety program designed to make sure they meet the highest standards of physical and mental suitability. The reviews and assessments of this program are extensive and continuous throughout their careers with OST.

Oak Ridge Team Member Honored With Bronze Star

Richard Stooksbury, a senior security planner for Wackenhut's Oak Ridge team that provides

Complex (Y-12) and the Department of Energy's Oak Ridge Office, was recently presented the Bronze Star Medal, with a "V" device for valor.

ambushed and attacked his unit near Balad Ruz, Iraq, on April 4, 2005. While one member of the unit was fatally wounded during the battle, Stooksbury braved enemy fire while directing a counter-attack and assisting in the evacuation of several wounded soldiers. His actions that day were instrumental in saving American lives and ultimately leading to the defeat of the enemy forces. Three other soldiers from the unit were also honored for their actions during the battle.



AWARD CEREMONY: From left to right, Major General Gus L. Hargett, The Adjutant General of the Tennessee National Guard; Sergeant First Class Richard Stooksbury; and Lieutenant Colonel Mark Hart.

The Bronze Star Medal was established in 1944 and is awarded for heroic or meritorious achievement or service. The "V" device for valor signifies that the bronze star has been awarded for heroism.

Sergeant First Class Stooksbury was a platoon sergeant with D Company, 1st

"I am honored to call Richard a colleague and to have the opportunity to work with someone who I consider to be a true American hero," said John Burleson, WSI-OR general manager. "It is an honor to work with all the former and current members of the military employed

security support services to NNSA's Y-12 National Security

Squadron, 278th Regimental Combat Team, when insurgents

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NNSA Weighs In On New Definition For Kilogram

The kilogram is losing weight and many international scientists, including NNSA scientists at Sandia National Laboratories in New Mexico, agree that it's time to redefine it.

Scientists are hoping to redefine the kilogram by basing it on standards of universal constants rather than on an artifact standard. The International Prototype Kilogram or Le Grand K, made in the 1880s, is a bar of platinum-iridium alloy kept in a vault near Paris.

"The idea is to replace the single master kilogram with something based on physical constants, rather than an artifact that could be damaged accidentally," said mechanical engineer Hy Tran, a project leader at the Sandia Primary Standards

Laboratory.

He said redefining the kilogram will have little impact on the nuclear weapons complex. The lab develops and maintains primary standards traceable to national standards and calibrates and certifies customer reference standards.

Of the seven units of measurements in the international system, the kilogram is the only base still defined by a physical object. In addition, copies of the kilogram have changed over time by either gaining or losing weight as compared to the standard kilogram.

"In the long term, the redefinition - especially if performed correctly - is beneficial because of risk reduction and because it may enable better measurements in the

future," Tran said.

By replacing Le Grand K with a unit based on physical constants, researchers at multiple laboratories and at national measurement institutes could establish traceability. Tran said the kilogram will remain the kilogram; it's only the way it will be defined that will change, which wouldn't happen until 2011 at the earliest.

"If and when the redefinition takes place, it will be done in such a fashion as to have minimal or no practical impact with other measured quantities," Tran said.

"In other words, if it is redefined so as to ensure better than 10 parts per billion agreement - rather than 20 parts per billion agreement - then we will see no major changes immediately."

Los Alamos Laboratory To Begin DARHT 2 Operations

The Dual Axis Radiographic Hydrodynamic Test (DARHT) facility at NNSA's Los Alamos National Laboratory (LANL) has officially become "dual" with

LANL principal associate director for nuclear weapons programs. "Such tools assure the continued safety, security and reliability of the nation's nuclear deterrent without the need to return to nuclear testing."

DARHT consists of two electron accelerators positioned at a 90-degree angle, both focused on a single firing point. It is at this point where nuclear weapon mock-ups are driven to extreme temperatures and pressures with high explosives and where the DARHT electron beams produce high-energy X-rays used to image the behavior of materials and systems under those extreme conditions. Beginning in May of 2007 these experiments moved into fully-contained

per hour with densities that exceed those at the center of the earth.

The DARHT second axis provides the nation with a unique, world-class scientific facility with the potential to not only provide four-frame "movies" of tests, but also to give scientists the data to create the first-ever three-dimensional images, critical data to meet the needs of the stockpile for decades to come.



DIGITAL IMAGE MAKER: DARHT uses these large circular aluminum structures to create magnetic fields that focus and guide a stream of electrons down the length of the accelerator. The final product of the process is images of mock nuclear devices as they implode.

authorization to begin full power operations of Axis 2, adding both new

capability and higher energy to the unique accelerator facility.

Axis 2 is an important diagnostic instrument that helps ensure the integrity of the nation's nuclear stockpile without nuclear testing. The first truly dual axis hydrodynamic test should take place in early summer 2008.

"The achievement of this capability at DARHT is a major accomplishment in stockpile stewardship," said Glenn Mara,

steel vessels, to better protect the environment and improve experiment turnaround time.

The technical demands of the second axis are one-of-a-kind. They include a 17-million-volt electron beam lasting for 1.5 millionth of a second - which is sliced into four pulses, each lasting less than 100 billionths of a second to create four X-ray pulses. These X-rays then create images of materials moving at 10,000 miles

NNSA Provides Aerial Radiation Detection Training To Chicago Police

Radiation detection experts from NNSA partnered with Chicago's police department in a pilot effort to train local law enforcement officers to use advanced detection methods.

"NNSA has years of experience in radiation detection using airborne detectors in our own Aerial Measurements System helicopters and airplanes," said NNSA Associate Administrator for Emergency Operations Joseph J. Krol.

In conjunction with the Department of Homeland Security's Domestic Nuclear Detection Office (DNDO), NNSA trained the Chicago police aviation unit in radiation detection. The course is designed to prepare law enforcement officers to conduct a radiological surveillance mission using a radiation detection system mounted on a helicopter. This

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Productivity Improvements Lead To Dramatic Cost Savings At NNSA's Y-12 Complex

Literally hundreds of employees have been involved in productivity improvements at NNSA's Y-12 National Security Complex that have resulted in direct cost savings or cost avoidance of approximately \$27 million.

More than 325 Y-12 contractor and federal employees who participated in productivity and cost savings teams were recognized for their efforts with Defense Programs Awards of Excellence by Deputy Administrator for Defense Programs Robert Smolen in a recent ceremony.

"These projects represent exceptional savings or cost avoidance," Smolen said. "They are great examples of the hard work and dedication of the contractor and federal work forces at Y-12."

Last year the Y-12 National Security Complex achieved a 300 percent increase in B61 Life Extension Program deliveries, a

320 percent increase in uranium machining capacity, and a 260 percent increase in special materials production.

The dramatic increases in productivity were made possible

YTIP involves not only the input and ideas of federal and contractor employees at Y-12, but also includes participation from the national laboratories and production sites across the nuclear weapons complex.

The projects recognized by Smolen touched virtually all aspects of Y-12 operations and include projects to dispose of hazardous waste, enhance the weapon surveillance process, lower costs of disposition of dismantled components, reduce inventory and allow accelerated dismantlement of retired

weapons.

"These projects exemplify the kinds of innovative, problem-solving thinking the Complex needs in order to meet the challenges of the future and to be the best possible stewards of our resources," said Ted Sherry, manager of the Y-12 Site Office.

THROUGHPUT IMPROVEMENT: Changes to improve machining efficiency were part of production improvements that resulted in significant cost savings at the Y-12 National Security Complex.



through the dedicated efforts of the Y-12 Throughput Improvement Program or YTIP, which is a key element of Y-12's overall productivity improvement program.

Championed by NNSA Assistant Deputy Administrator for Military Application and Stockpile Operations Steve Goodrum, YTIP facilitates actions to improve productivity and processes and ensures that commitments are met on time and within budget.

Oak Ridge Team Member Honored With Bronze Star (continued from page 6)

at WSI-OR and I salute all of them for their service to our country."

In his position with Wackenhut's Oak Ridge team Stooksbury works to ensure projects and programs associated with weapons of mass destruction, chemical biological warfare, communications and new technology development and fielding are efficiently managed and effectively incorporated into the contingency plans of the Oak Ridge protective forces.

"I have been so thankful for the kind comments I have received from my co-workers since receiving the award," said Stooksbury. "Every Security Police Officer who stands a post, who reports for duty whether it be a sunny spring day, or in the harsh cold of winter, is also serving his or her country. I want them to know that I am just as appreciative of their service to protect all of us as they carry out their mission everyday."

NNSA Provides Aerial Radiation Detection Training to Chicago Police (continued from page 7)

system detects gamma radiation and will help locate a potential dirty bomb or other radiological source.

This training is a part of a joint NNSA/DNDO pilot project that could later be expanded to cover additional cities.

NNSA's Aerial Measuring System recognizes and identifies ground-deposited radiation from aerial platforms. These platforms include fixed wing and rotary wing aircrafts with radiological measuring equipment, computer analysis of aerial measurements, and equipment to locate lost radioactive sources, conduct aerial surveys, or map large areas of contamination.