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BUDGET HEARING: Administrator Linton F. Brooks (center) testifies before a March hearing of the House Armed Services Committee Strategic Forces Subcommittee. To his right is DOE Assistant Secretary for Environmental Management James Rispoli. To his left is DOE Office of Security and Safety Performance Assurance Director Glenn Podonsky. See inside pages four and five for more facts and photos about NNSA's FY 2007 budget request.

NNSA Works With Australian Agency To Counter Radiological Threats

Australia's Radiation Protection and Nuclear Safety Agency (ARPANSA) has agreed to join forces with NNSA to counter radiological threats such as a "dirty bomb" and to respond to emergencies. Principal Deputy Administrator Jerry Paul and ARPANSA's Chief Executive Officer Dr. John Loy have signed a memorandum of understanding for the two agencies to work together.

"Australia is a key ally in the Southeast Asia region," Paul said. "We are already working together to reduce the threat posed by radiological material in the hands of terrorists, but this agreement solidifies that relationship and will allow us to cooperate even more. Australia stands as a model for leaders in other regions to implement such multilateral, cooperative programs. We look forward to working even further with Australia to keep dirty bomb material out of terrorism's reach."

The agreement was facilitated through NNSA's Global Threat Reduction Initiative program. The program's mission is to identify, secure, recover and/or facilitate the final disposition of high-risk vulnerable nuclear and radiological materials around the world as quickly as possible.

Tritium Extraction Facility Reaches Another Milestone

The nation has had no source for new tritium, an essential material for modern nuclear weapons, since 1988 when the last heavy water reactor at the Savannah River Site (SRS) ceased production. Current stockpile tritium requirements have been met by recovering the gas from dismantled nuclear weapons and routine tritium reservoir exchanges from the existing nuclear stockpile.

However, with construction of the new Tritium Extraction Facility (TEF) at SRS, the introduction of tritium is well on its way. The facility recently passed a significant milestone - the completion of non-radiological testing. Full operation is expected to start in

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In This Issue

Secretary Bodman Visits Kansas City Plant

During a March visit to the Kansas City Plant (KCP) in Missouri, Secretary of Energy Samuel W. Bodman said the plant is a national asset that provides unique technical expertise to NNSA and its national laboratories.

"Anybody who can look after tiny items like miniature mechanisms, which require extraordinary precision, on the one hand, and also deal with products like security trailers on the other, greatly impresses me," he said, referring to the plant's manufacturing of components for defense products.

Bodman spoke to KCP employees about Congress and the Department of Energy's ongoing reassessment of the nuclear weapons complex. The secretary emphasized that the Kansas City Plant will continue to play a vital role in NNSA's efforts to reduce the country's nuclear weapons stockpile and modernize weapons.

"The technical expertise you provide to the national labs is critical," Secretary Bodman said. "You need to maintain your extraordinary skills because those skills are important to the future of what we do."

BODMAN AT KCP: Honeywell FM&T President Vince Trim, Secretary of Energy Samuel Bodman, NNSA Kansas City Site Office Manager Steve Taylor, and NNSA Deputy Administrator for Defense Programs Tom D'Agostino (left to right) pause for a photo after Secretary Bodman's presentation to Kansas City Plant employees and a tour of the facility.

Sandia California Site Celebrates 50 Years

Sometimes reporters and even people within the nuclear weapons complex make the mistake of referring to Sandia Labs as Sandia National Laboratory. The reason it's plural and not singular is that Sandia has two locations — New Mexico and California.

Last month Sandia/California's 50 years of accomplishments were feted in three days of celebration, including a rededication ceremony in which Mim John, vice president of the California site, looked to the past and future and welcomed back pioneering employees and four former vice presidents of the site.

Sandia/California was officially established March 8, 1956, to provide engineering oversight for nuclear weapons whose explosive "physics packages" were being developed across the street at what is now Lawrence Livermore National Laboratory (LLNL).

From a couple of dozen employees who initially worked in a former Navy barracks, the site grew by the 1960s to a workforce that has stayed at about 1,100. Programs branched from strictly defense to include energy, bioscience, and microfluidics. Sponsors expanded to include the Department of Homeland Security, and interactions spread to involve industry, academia, and the state and region.

Sandia President and Director Tom Hunter, former California site vice president, said the world has changed remarkably in the last five decades but he is convinced "the nuclear deterrent will capture and maintain an enduring peace that can contribute to a more confident and secure world. . . . I think we can set the stage for looking at security in a whole new way."

"Sandia continues to do excellent work in supporting our nation's nuclear weapons stockpile," said NNSA Principal Deputy Administrator Jerry Paul, who attended the anniversary celebration.

Krakatau Subcritical Experiment Another Success For NTS

The latest subcritical experiment to examine plutonium as it is strongly shocked by chemical high explosives has been successfully conducted at NNSA's Nevada Test Site (NTS). The data resulting from the experiment will provide crucial information to maintain the safety and reliability of nuclear weapons without having to conduct underground nuclear tests.

The material was so well insulated that two coins placed on their edges at the surface remained upright throughout the forceful experiment.

Subcritical experiments produce essential scientific data and technical information used to help maintain the safety and reliability of the nuclear weapons stockpile. The experiments are subcritical, which means that no critical mass is formed and no self-sustaining nuclear chain reaction can occur; thus, there is no nuclear explosion.

"The containment design was well engineered and executed by an integrated team of Bechtel, Los Alamos National Laboratory (LANL), and Sandia specialists," said Raffi Papazian, test group director for LANL. "The containment design mimicked many of the technologies developed during underground nuclear testing and was applied to the underground environment to support this subcritical experiment."

The containment design included layering a variety of materials around the plutonium, including glass, magnetite, coarse and fine gravel, and cement plugs.

The Atomic Weapons Establishment of the United Kingdom, and LANL, conducted the experiment at the NTS within an underground portion of the U1a complex to gather scientific data.

The U1a Complex is located 85 miles northwest of Las Vegas and is designed to contain these experiments in a safe and secure environment in an underground laboratory of horizontal tunnels with small excavated experimental alcoves mined at the base of a vertical shaft, approximately 960 feet beneath the surface.

SUBCRIT PREP: Nevada Test Site workers prepare the Krakatau subcritical experiment to be lowered into the floor of the tunnel of the U1a Complex.

MATHCOUNTS: Keith Nakanishi of Lawrence Livermore National Laboratory coaches middle school students during a MATHCOUNTS session. MATHCOUNTS is a nationwide enrichment, coaching, and competition program that promotes middle school mathematics achievement through grassroots involvement. Volunteer coaches meet with students in four Livermore middle schools for one hour each week.

NNSA 2007 Budget Request

Budget Request Seeks More Efficient, Responsive Nuclear Weapons Complex

NNSA's portion of the President's annual budget request to Congress for fiscal year (FY) 2007 is about $9.3 billion, a 2.3 percent increase over the 2006 allocation. It will allow NNSA to continue its national security work across the country and around the globe.

The largest piece of NNSA's budget – about $6.4 billion – remains its weapons programs, which keep the U.S. nuclear weapons stockpile safe, secure and reliable. Under this request, NNSA will be able to continue modernizing the complex's infrastructure, making it even more responsive to future national security needs. It also will continue the Reliable Replacement Warhead feasibility study to ultimately reduce the cost and risk of maintaining a continuously aging stockpile.

NNSA's nonproliferation programs' request is $1.7 billion, an increase of about $111 million or 6.9 percent. With this boost, NNSA will be able to enhance its global efforts to detect, prevent and reverse the proliferation of weapons of mass destruction and hazardous nuclear materials.

Another budget highlight includes about $800 million for a robust and effective reactors program for the U.S. Navy.

AFTER-HEARING QUESTIONS: Administrator Linton F Brooks (left) listens to a question from a reporter following his testimony before the Strategic Forces Subcommittee of the House Armed Services Committee. Congressional, Intergovernmental and Public Affairs Director Anson Franklin (to the right of Brooks) and Public Affairs Director Bryan Wilkes (behind the group, second from the right) also contemplate the question.

The Budget Process: Three Phases, One Long Year

Funding the federal government annually is a long, complicated process that takes 20 months or longer to enact. And, while the budget is working through the system, the next year's process is already well under way. It is a three-part procedure: the President's budget request is developed, Congress takes action, and funds are distributed.

Phase One: About 10 months before the President's budget request is submitted to Congress, the Office of Budget and Management (OMB) begins the process by compiling funding requests from each agency, including NNSA. The budget request outlines the priorities of the President, and is the starting point for Congress to determine funding levels.

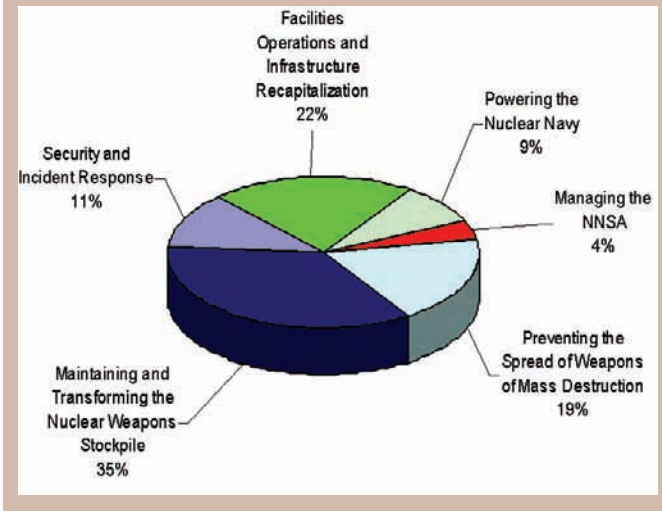
SENATE AUTHORIZER HEARING: Administrator Brooks explains the FY 2007 NNSA budget request to members of the Senate Armed Services Committee Strategic Forces Subcommittee. Seated next to Brooks is DOE Assistant Secretary for Environmental Management James Rispoli who also testified before the committee.

ONE-ON-ONE: Administrator Brooks and California Congresswoman Ellen Tauscher discuss a Lawrence Livermore National Laboratory issue following the House Armed Services Strategic Forces Subcommittee hearing in the Rayburn Building on Capitol Hill. Seated behind Tauscher is South Carolina Congressman John Spratt. At the top of the photo in the left corner is Alabama Congressman Terry Everett, chairman of the subcommittee.

Phase Two: Congress determines the annual federal agency funding levels through a set schedule. Federal agency representatives testify before congressional committees to justify the President's request. During spring and summer, Congress drafts, debates and passes spending bills through the House and Senate. The deadline for spending approval is October 1. However, negotiations sometimes take longer and, if so, a resolution is passed to fund the government at the previous year's level until an agreement is reached.

Phase Three: About a month and a half after Congress approves a spending bill, OMB distributes funds to the agencies. Throughout the year, the agencies make allotments and conduct their activities. If more money is needed, agencies must go back through Congress for supplemental funding approval.

NNSA Budget Breakdown
FY 2007 Budget Request = $9.3 Billion



TEF Reaches Another Milestone

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2007, ahead of schedule and under budget.

On a recent tour of TEF, NNSA's Deputy Administrator for Defense Programs Tom D'Agostino helped crews celebrate the achievement of non-radiological testing. "I can't tell you how delighted and amazed I am at the progress so far," he said, congratulating the construction and start-up employees.

In December 1998, DOE announced that commercial reactors would be the primary source for tritium production. DOE selected the Tennessee Valley Authority's Watts Bar Unit 1, Sequoyah Unit 1, and/or Sequoyah Unit 2 commercial light water reactors for irradiating the DOE-supplied tritium-producing burnable absorber rods (TPBARs). In October 2003, the first TPBARs were inserted in TVA's Watts Bar reactor for irradiation, then shipped to SRS. The irradiated TPBARs are being stored at SRS pending completion of TEF.

TEF TALK: Deputy Administrator for Defense Programs, Tom D'Agostino (second from right), tours the Cask Trolley where irradiated rods from Tennessee Valley Authority reactors will be received for processing at the Tritium Extraction Facility that has begun its final testing stages at the SRS Tritium Facility. The deputy administrator discusses the facility with (from left) Rick Arkin, SRS manager, Kevin Hall, TEF start up manager and Clay Ramsey, TEF federal project manager.

Construction of the $506 million facility began in 2000 and was completed ahead of schedule in December 2004. Startup testing of process equipment began in May 2004 with the turnover of the first process gloveboxes. The facility conducted inert gas testing in 2005. Final testing, procedures and training will continue through fiscal year 2006. Readiness Assessments will begin in fiscal year 2006, with approval to begin normal operations forecast for 2007.

LANL Scientist Is Asian American Engineer Of The Year

Los Alamos National Laboratory (LANL) scientist Ning Li has been named 2006 Asian American Engineer of the Year by the Chinese Institute of Engineers-USA (CIE-USA). Li was recognized for his technical and programmatic leadership in developing an important heavy-liquid metal nuclear coolant technology for advanced nuclear reactor and waste transmutation applications.

Ning Li

Li, of the Los Alamos Condensed Matter and Thermal Physics group, is the laboratory's project and team leader for heavy liquid metal coolant technology and materials development, and serves as an executive committee member of the Material Science and Technology Division of the American Nuclear Society. Li also is an adjunct professor in the Mechanical Engineering Department at the University of Nevada, Las Vegas, and is a research affiliate in the Nuclear Science and Engineering Department at the Massachusetts Institute of Technology. He has authored 97 publications and technical reports and has received one patent.

Li earned his bachelor's degree in physics from the University of Science and Technology of China and arrived in the United States as a doctoral student in the Physics Department at the University of California, Santa Barbara.

The CIE-USA award recognizes established engineers who have made outstanding contributions to the engineering profession and the public welfare.

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Y-12 Site Manager Retires

Bill Brumley, manager of the Y-12 Site Office recently retired, turning the reins over to his deputy.

"I've been here for six years, and I think most managers are going to make the most influential changes in their first three to five years," said Brumley. "It's time to turn it over to someone else."

The "someone else" is Ted Sherry, the deputy manager. Prior to coming to Y-12, Sherry held nuclear safety positions at NNSA's Albuquerque office and at the Pantex plant.

Brumley, a nuclear engineer with a degree from North Carolina State University, was actually eligible for retirement in April 2003, but wanted to see projects like the Highly Enriched Uranium Materials Facility and the Enriched Uranium Manufacturing Facility become realities before he left.

"I checked those boxes," Brumley said. "Probably the last big box was the Y-12 groundbreaking."

Brumley's first job out of college was with the U.S. Navy Shipyard in Charleston, S.C., overhauling and refueling nuclear submarines. It was in Charleston that he met his wife, who was an X-ray technician at the time.

He later went to the Savannah River Site in Aiken, S.C., where he did "about everything that could be done." He worked with the commercial fuel cycle program, waste management, environmental and as chief of the technology branch during the construction of a $1 billion defense waste processing facility. He spent the last three years in the nuclear weapons programs in tritium facilities.

It was his work at the Savannah River Site that led him to Oak Ridge, where he moved in 2000 for an interim assignment as manager of the Y-12 site office.

"I applied for the job and never went home," he said.

Brumley came on board as assistant manager for defense programs at the Oak Ridge Office. In October 2000, when the National Nuclear Security Administration was formed, he became manager of the Y-12 site office and reported to NNSA headquarters.

'Defense in Depth' Is NNSA Site Security Policy

NNSA's Office of Defense Nuclear Security is using a "defense-in-depth" philosophy to raise the level of security across the nuclear weapons complex. The technological improvements support all layers of protection from outside of security perimeters to inside material storage vaults.

SITE SECURITY: Technology like this exterior-mounted weapon that can be controlled from an armored cabin is part of a multi-layer defense system used to keep NNSA's sites safe and secure.

Examples of exterior applications include "smart" cameras, which supply encrypted digital video to command and control centers with the additional capability of detecting any loss of video. As commercial industry phases out analog cameras, the experience gained at NNSA sites with smart cameras will become an important source of lessons learned.

A ground surveillance radar system that is matched to an assessment system is also being deployed to improve early warning capabilities at one facility. The intent of the technology is to allow protective forces to increase situational awareness of ground attacks and enable them to engage adversaries earlier.

If protective forces engage adversaries, they will use new armored vehicles at several sites. Because of the way exterior-mounted weapons can be controlled from within the armored cabin, these vehicles will improve the lethality and survivability of forward-deployed protective force personnel.

If adversaries penetrate a site's perimeter, they will encounter new lethal technologies, such as Remotely Operated Weapon Systems, high-rate-of-fire weapons, and lethal denial technologies. The combination of these technologies will make it very unattractive for any adversaries to attack an NNSA nuclear facility.

NNSA, Small Business Help Reshape Y-12

While NNSA has been focused on modernizing the Y-12 National Security Complex in Oak Ridge, Tenn., a recent construction project there could be thought of as retro, or more precisely, an historic replica.

When plans were made to create the Technical Support Facility, a 13,500 sq. ft. office building that will house a portion of Y-12's Engineering and Maintenance organizations, NNSA's Y-12 Site Office decided to incorporate its ongoing historic preservation efforts into the building's design.

The façade of the building was modeled after the World War II-era Alpha and Beta buildings that surround it. The Alpha and Beta buildings originally housed the calutrons used to enrich the uranium for "Little Boy," the first atomic weapon, during the Manhattan Project. The design incorporated key architectural features of the larger buildings, including the layout of the brickwork and the types of windows used.

Keeping in line with history again, NNSA employed the services of the U.S. Army Corps of Engineers, the original overseers of Y-12's construction in 1943, to procure and manage the construction project. To utilize the talents of a small business, the Corps awarded the construction work to STEP, Inc., a local minority-owned small business. The design was performed by Jacobs Engineering.

Construction of the Technical Support Facility was funded through the NNSA's Facilities and Infrastructure Recapitalization Program.

NNSA Appoints Executive Director For China Office

Signaling a commitment to the region, NNSA recently opened an overseas office in the U.S. Embassy in Beijing, China, and appointed Dr. Marco Di Capua as the executive director.

OVERSEAS OFFICE: Pictured, from left to right: Dr. Marco Di Capua, executive director, DOE-Beijing; Kenneth E. Baker, principal assistant deputy administrator for Defense Nuclear Nonproliferation; and, Nicholas Carlson, director, Office of International Operations.

"Engagement in energy and nuclear security matters is vitally important to the U.S.-China relationship. We are fortunate to have someone as capable as Dr. Di Capua in Beijing to oversee this important effort," said Ken Baker, principal assistant deputy administrator, whose responsibilities include overseeing NNSA's international offices.

As the senior representative for the Department of Energy (DOE) in China, Di Capua and his team will support DOE and NNSA programs, and keep the ambassador informed on all DOE-related developments.

Current initiatives in the country include nuclear nonproliferation, and promotion of U.S. industry in China's energy market.

"I am honored to have been selected for this position. I look forward to working closely with my Chinese counterparts to advance U.S. nonproliferation and energy portfolio objectives, said Di Capua.

Just off a tour with the State Department in India, Di Capua brings a wealth of experience to the new office. This is not his first time in China, as he was the science counselor at the U.S. Embassy in Beijing for five years. He also led the U.S.-China Arms Control Technical Exchange Program at Lawrence Livermore National Laboratory.

In addition to its new Beijing office, NNSA has overseas offices in the Russian Federation (Moscow, St. Petersburg, and Yekaterinburg), Ukraine (Kiev), Japan (Tokyo), and at the U.S. Mission to the International Atomic Energy Agency in Vienna, Austria.