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### Four Nations Sign Megaports Pacts With United States

The United States has signed agreements with Israel, the Peoples Republic of China, the Sultanate of Oman and Honduras to begin joint efforts to help detect the smuggling of nuclear and other radioactive material.

Special equipment will be installed at one of Israel's busiest seaports and at ports in China to detect and interdict illicit shipments of nuclear and other radioactive materials. The agreements with Oman and Honduras are the first international cooperative agreements involving both the Department of Homeland Security's (DHS) Container Security Initiative (CSI) and NNSA's Megaports Initiative.

NNSA's Second Line of Defense program will work with Israel's Ministry of Transport to install the equipment and train its operators.

NNSA Administrator Linton F. Brooks said, "The United States and Israel must join together in combating the threat of nuclear

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## NNSA Completes First Major Milestone At Seversk Power Plant

A major step towards eliminating all future production of weapons-grade plutonium in Russia occurred when the first refurbished boiler of the Seversk Plutonium Production Elimination Project (SPPEP) completed final testing in November and was placed on line. The boiler is now providing heat and electricity to the city of Seversk.

This milestone represents an important first step in NNSA's cooperative effort between the United States and the Russian Federation known as the Elimination of Weapons-Grade Plutonium Production Program.

The primary goal of the SPPEP is to shut down the last three plutonium-producing reactors in Russia by creating alternative sources of power for the surrounding communities. Two of the three remaining reactors are located in the Siberian city of Seversk. SPPEP will replace the power

*"Having the boiler back on-line is a significant accomplishment for the SPPEP and an important step towards eliminating the production of weapons-grade plutonium in Russia".*

*Jerry Paul*

(continued on page 2)

**ROBO TECH:** U.S. Reps. Pete Hoekstra, R-Mich. (center), and Heather Wilson, R-N.M.(right of Hoekstra), watch a robot demonstration at Sandia National Laboratories in Albuquerque. A briefing on technologies developed at NNSA's national labs and by local technology companies that could soon play a role in U.S. military and counterterrorism activities was also provided. Hoekstra is chairman of the House Permanent Select Committee on Intelligence. Wilson serves on the Intelligence Committee and chairs its Subcommittee on Technical and Tactical Intelligence.



# NNSA Completes Major Milestone At Power Plant

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supplied to the city and the surrounding area through the refurbishment and upgrade of a 50-year-old coal-fired power plant.

towards eliminating the production of weapons-grade plutonium in Russia," said NNSA's Principal



**AFTER:** WGII Construction Manager, Gary Knurbein (third from the right); plant Director Nikolai Shapkin (fourth from the right) and Rosatomstroy Engineer, Victor Goppe (far right) with the plant's refurbishment personnel.



**BEFORE:** The initial inspection team, which included Washington Group International, Inc. (WGII) and Rosatomstroy specialists, found the Seversk Central Thermal Electrical Plant to have a talented and committed workforce nursing energy from an aged and deteriorating plant.

Deputy Administrator Jerry Paul.

Russian Integrating Contractor, Rosatomstroy, and the plant operator, Siberian Chemical Combine.

The boiler had been out of operation for an extended period of time and was in need of major

When all of the upgrades to the power plant are complete in 2007, the boilers will be shut down a final time and the second stage of its refurbishment will be completed including auxiliary equipment replacement, controls system upgrades and emissions systems improvements.

The program is on time and on budget with a completion date of December 2008.

"Having the boiler back on-line is a significant accomplishment for the SPPEP and an important step

repairs. It will be refurbished in two stages rather than completely replaced as originally scoped, a strategy developed jointly by the SPPEP team consisting of the U.S. contractor, Washington Group International, Inc., the

Significant cost savings are expected when the refurbishment is complete.



## Brooks Honors Young CFC Poster Artists

Several children of DOE employees participated in the poster contest for the Combined Federal Campaign. NNSA Administrator Linton F. Brooks honored them with a reception. As head of the DOE/Headquarters campaign, he praised the work and generous spirit of the children and explained how their work will help others in our community. Their proud parents shared in the celebration.

The children's posters depicted care and concern for the less fortunate and added momentum to this year's campaign that raised over \$1 million.



# Sandia "RAP" Artists, White Sands Techs Free Stuck Radiation Source

The cylinder was small — the size of a restaurant salt shaker — but it emitted enough gamma rays to kill a person in half a minute. And it was stuck.

Technicians at DoD's White Sands Missile Range Gamma Irradiation Facility in New Mexico ordinarily use pneumatic air to propel the little cylinder from its insulated location to its exposed test position and back again, like drive-up banking facilities use pneumatic tubes to shuttle cylinders between customer and teller. The method had worked satisfactorily for decades.

But after the irradiator finished a test sequence late last year, a switch along the cylinder's path caught in one of its ribbings and would not release. The cylinder, emitting 20 rads/second at a distance of one foot, wouldn't move, said White Sands health physicist Douglas McDonald. Five hundred rads is considered a lethal dose; half the people receiving it die in 30 days. Warning horns blared. Warning lights flashed. They would do so for almost three weeks.

The facility had to be staffed around the clock to make sure security personnel and other potential visitors did not enter the area because radiation was present. There were no injuries, but the test facility was now inoperative.

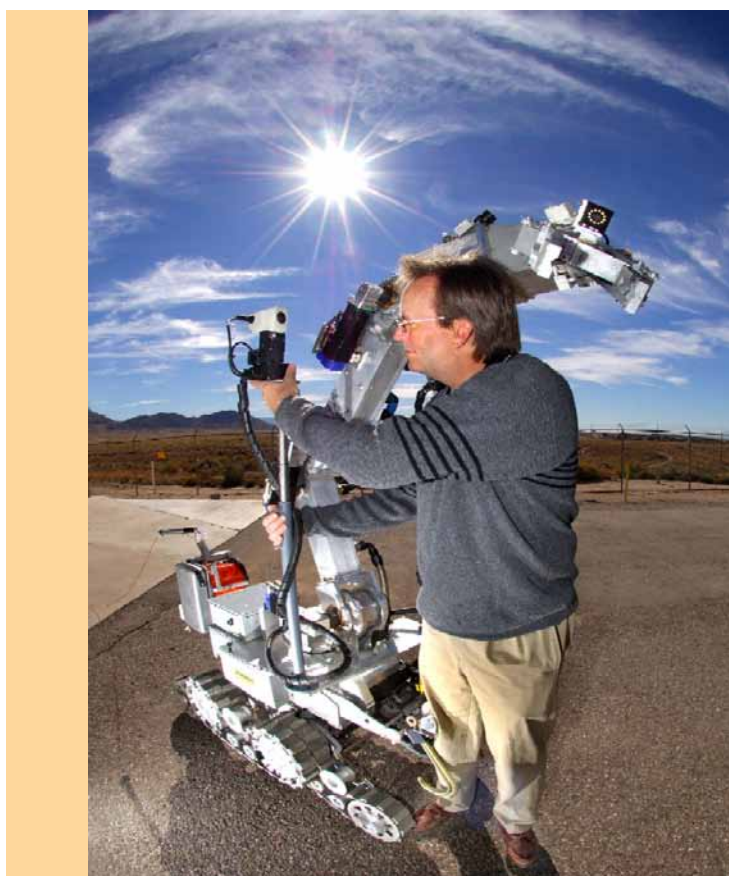
White Sands personnel called the Sandia National Laboratories Radiological Assistance Program (RAP) team in Albuquerque — exactly the right thing to do, said Sandia RAP leader Richard Stump. "Part of RAP's mission is to help out in jobs like this," he said.

Stump called Sandia robotics manager Phil Bennett and explained the problem. Bennett's group had a 600-pound, five-foot-long robot, now unofficially known as M2, that rolled on treads, could maneuver around obstacles and had the dexterity to reach into awkward places and apply force to drills and screwdrivers.

But radiation that can kill a human can also kill a robot. Bennett estimated M2 could withstand intense radiation for only 50 minutes. On tests performed at Sandia by Bob Anderson and Jim Buttz on a mock-up sent north from White Sands, M2 performed perfectly. The team made the trip to White Sands, where reality — as it often does — proved more complex than the dry run had led the

team to expect.

Aided by M2's video camera, Anderson steered the robot around two free-standing radiation shields and stopped it at the work site. The robot drilled



**SANDIA LABS ROBOT, M2** : Bob Anderson of Sandia National Laboratories demonstrates the capabilities of the 600-pound, five-foot-long robot, affectionately known as M2, for Mighty Mouse.

through the steel plate on target, but the switch did not budge. The RAP team was to have more difficulty with the plate over the next three days.

Modifying its tools with parts from Home Depot and Lowe's, the team ultimately outfitted special tips to the end of its gripper. This time M2 succeeded. A blast of air then blew the entire switch out of the cylinder's pathway, and the radiation source at long last was blown back to its storage position.

It was at White Sands that the robot came to be affectionately (and unofficially) dubbed "M2," for the cartoon character Mighty Mouse. The four-day on-site effort ended the problem, to the exuberance of the RAP team and relief of White Sands personnel.

## Four Nations Sign Megaports Pacts With United States

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smuggling and international terrorism. I know that our joint efforts under this project will directly contribute to our mutual nonproliferation objectives, and to the safety and security of our two nations and the global maritime system.”

Commenting on the agreement with China, Brooks said, “The United States and the People’s Republic of China recognize the importance of joining forces against the threat posed by the trafficking of nuclear and other radioactive materials. This agreement furthers both nations’ efforts to work cooperatively in hindering terrorism.”

NNSA Principal Deputy Administrator Jerry Paul commended Oman and Honduras, saying, “The United States and Oman both recognize the need to remain vigilant against the threat posed by the trafficking of nuclear and other radioactive materials through the global

maritime shipping network. Along with the Honduran government, we will be able to further international nonproliferation efforts and better protect not only the citizens of Honduras and the United States, but the rest of the international community.”

Under the CSI, DHS stations

to establish security criteria for identifying high-risk containers. Their mission is to target and pre-screen containers destined for the United States. To expedite the inspection process, host customs administrations are required to provide non-intrusive technology to quickly inspect any identified high-risk containers before they are shipped to U.S. ports. The capabilities provided under the Megaports Initiative offer an additional targeting tool for customs officials supporting CSI.

The Megaports Initiative is part of the broader Second Line of Defense Program, in which NNSA works with foreign partners to equip border crossings, airports and seaports with radiation detection equipment and to provide training to appropriate law enforcement officials.

The specialized radiation detection technology deployed under this program

is based on technologies originally developed by NNSA laboratories as part of the overall U.S. government efforts to guard against the proliferation of weapons materials.



**NONPROLIFERATION AGREEMENT:** NNSA Administrator Linton F. Brooks (right) and Israel’s Shipping and Ports Administration Director Arie Rona sign a Second Line of Defense program agreement. Israel Megaports Country Manager Stephanie Clarke (far right) assisted Brooks with the agreement.

multidisciplinary teams of U.S. officers from the Customs and Border Protection Bureau and the Bureau of Immigration and Customs Enforcement to work with their host government counterparts

## Dr. Kevin Greenaugh Receives 2006 Professional Achievement Award

The U.S. Black Engineer of the Year Selection Panel has chosen Dr. Kevin C. Greenaugh to receive the 2006 Professional Achievement in Government Award. Dr. Greenaugh joined the government as a chemist at Los Alamos National Laboratory. Today, he manages the two-thirds-of-a-billion-dollar research, development and simulation budget of the Nuclear Stockpile Stewardship Program. The Council of Engineering Deans of the Historically Black Colleges and Universities, Lockheed Martin Corporation, Daimler Chrysler Corporation and the U.S. Black Engineer & Information Technology Magazine sponsored the award. This prestigious award is highly sought after and is characterized by stiff competition among qualified candidates. On the evening of Saturday, February 18, 2006, at the Baltimore Convention Center, Dr. Greenaugh will receive his award and provide a message of excellence and achievement to thousands of young people.

**CORRECTION:** An article in the October newsletter mistakenly reported two separate Hurricane Katrina flyover missions as a single mission. There were two NNSA-related aircraft missions flown after Katrina, one flown by the EPA with equipment from Los Alamos National Laboratory for chemical surveys and another mission flown by NNSA’s Remote Sensing Laboratory at Nellis Air Force Base to survey the New Orleans area for radiological hazards.



## New ES&H Advisor Has DOE, EPA Background

Frank Russo, the new NNSA senior advisor for environment, safety and health (ES&H), has thirty years of federal experience, primarily serving the Department of Energy (DOE) and the Environmental Protection Agency (EPA).



Frank Russo

At NNSA, Russo advises Administrator Linton F. Brooks in matters relating to radiological controls, environmental protection, occupational health, industrial safety and nuclear safety. He advises other senior officials on ES&H policy matters, including all aspects of nuclear and nuclear explosive operations. In addition, he advises NNSA in its interactions with DOE and other federal, state and local agencies on matters relating to ES&H.

Previously, Russo was the deputy assistant secretary for Corporate Performance Assessment in the DOE Office of Environment, Safety and Health where he was responsible for the collection, analysis and dissemination of ES&H performance information.

Prior to joining DOE, Russo worked more than 12 years for the EPA. He held various management positions within the agency's Superfund program and was responsible for providing the EPA regional offices policy guidance and technical direction for the implementation of the national enforcement program. This included providing technical support and direction in the negotiations of major Superfund cleanup agreements and working with the Department of Justice on nationally significant litigation.

Russo's early professional experience was in the field of plant pathology and research. He holds a Bachelor of Science degree in Forestry and a Master of Science degree in Plant Pathology from Rutgers University. Mr. Russo and his wife, Wendy, live in Virginia.

## Sandian Brings Photovoltaic Light To Indian Reservations

Debby Tewa spent the first ten years of her life living without electricity, water, or a telephone in a three-room stone house in an isolated area of the Hopi Reservation in Arizona.

Today, as a contractor to the Sandia National Laboratories Tribal Energy Program, she provides technical advice about maintaining photovoltaic (PV) electricity units to people on Indian reservations who live remotely like she did. For many, it is the first time they have had electricity in their homes.

"I can identify with the people I'm helping," Tewa said. "Many live the way I grew up, and I fully appreciate their excitement in having electricity and light at night."

As part of her job, Tewa and program director Sandra Begay-Campbell offer technical advice to



**PHOTOVOLTAIC UNITS:** Debby Tewa is helping Native Americans in remote areas learn how to maintain PV units deployed via DOE grant money.

tribal governments, which receive DOE Tribal Energy grants. Her work also includes teaching Native Americans how to use and maintain PV units, supporting project management plans and helping people network and learn from each other about their PV systems. In addition, she is enhancing DOE's PV reliability database with off-grid system information which includes Navajo PV systems' maintenance data.

The Navajo Utility Authority, with DOE funding, has installed PV units at more than 300 homes on the reservation since 1993.

"There is still a long way to go," Tewa said. "It's estimated there are 18,000 families in the Navajo Nation without electricity."

# NNSA Counterintelligence Is Everyone's Concern

## New Los Alamos Internal Security Director Brings Counterintelligence Expertise From The CIA

If you are a federal or contractor employee of NNSA, you have been to many security briefings and know that you could be of interest to foreign intelligence agents who want to steal secrets or even recruit you to help.

Federal and contractor counterintelligence experts at NNSA sites, among their many tasks, are charged with raising and maintaining staff consciousness about the threat of espionage.

One such expert is Bill Phillips, a retired CIA human intelligence and counterintelligence expert, who is the new director for internal security (ISEC) at Los Alamos National Laboratory (LANL).

Phillips retired from the CIA in 2005 after working twenty-five years in the Directorate of Operations, which is the clandestine service of the agency. He was also a member of the Senior Intelligence Service and held a wide variety of field and senior CIA Headquarters managerial positions prior to his retirement. In January 2006, Phillips will receive the CIA's Distinguished Career Intelligence Medal in honor of his career accomplishments.

National security can be compromised through the intentional acts of hostile intelligence services or through the inadvertent behavior of laboratory employees, Phillips said. Because of his experience in human intelligence, Phillips said he is quite sure of what hostile intelligence services are looking for and he knows the nature of many of the secrets

they crave. "I know what they're looking for, and I can apply my experience in the

**AUDIENCE WITH THE DALI LAMA:** While in India, Phillips and his family received a private audience with the Dalai Lama. This photo was taken after the visit, at which Phillips received a ceremonial scarf. Phillips said the Dalai Lama was a very compassionate man who spoke of peace, forgiveness, relations with China, Tibet, poverty and spirituality.

foreign intelligence field here," he said.

Phillips, who has also worked to counter the global terrorist threat, said his experience will help the laboratory be better prepared. He said global terrorists are becoming increasingly more sophisticated.

Phillips has traveled the world fighting narco-terrorism in Latin America, and worked other missions for the CIA in the Middle East, North Africa and South Asia. Do not ask him for a curriculum vitae — he does not have one. Most of what he did, he will not talk about. He jokingly said he was a "spymaster" in a career field "where there are no resumés."

According to Phillips, some of the best counterintelligence is provided by potential targets. Most people at an NNSA site might be considered targets by a hostile intelligence service, he said. Those in sensitive positions would be considered even more vulnerable.

The counterintelligence business is



*"The bottom line is that good 'counterintelligence acumen' will support laboratory employees in the creation of excellent science needed to protect America from enemies."*

Bill Phillips



about people, he said. It is about understanding, sharing and trust, which is critical to creating a counterintelligence environment in which it is hard for hostile intelligence services and their tools to flourish.

Building on trust, Phillips wants to focus the ISEC mission at LANL. The bottom line, he said, is that good "counterintelligence acumen" will support laboratory employees in the creation of excellent science needed to protect America from enemies.

Phillips said he has been surrounded by scientists and scholars his whole life. He briefly taught history at a small college in New Jersey prior to joining the CIA. His father was one of the first African Americans to receive a PhD from the

University of Chicago where he went on to serve as an international Fulbright and university professor. His mother was a micro biochemist who worked for a pharmaceutical company in New Jersey and she was also a university professor.

Phillips is a longtime student of Ki Aikido, a Japanese martial arts created in the 20th century. He is a certified Sho Kyu in Ki Development.

Phillips has a Law degree from Rutgers and a B.A. degree in History from Howard University in Washington, D.C. He has been married to his wife, Linda, for 19 years. They have two sons, Derek, aged 9 and William IV, aged 14. His children attend school in Los Alamos.

## A Message From NNSA Counterintelligence

NNSA counterintelligence (CI) has as its first priority the prevention of CI problems. We are dedicated to providing relevant, value-added support to the NNSA mission

managers. We judge ourselves most successful when our guidance enables the informed

management of CI risk, either as a result of our detection and assessment of the foreign intelligence or international terrorist threats to our sites, or through CI training that substantially improves protection of our employees and information against hostile foreign intelligence activities.

NNSA badge holders are entrusted with special responsibilities to remain vigilant against attempts by foreign intelligence services, terrorist organizations or even international criminal entities seeking to steal

the secrets held by NNSA. This responsibility should not be looked upon as a burden, but instead a mechanism for empowering each of us to understand the nature of the

suited to conduct counterintelligence activities. Let THEM support you!

Non-CI professionals can support good CI by remaining alert to the potential of compromise of operations, facilities and data through deliberate or even inadvertent actions. By using good judgment, most counterintelligence incidents or threats

***By using good judgment, most counterintelligence incidents or threats can be avoided or spotted and resolved before they become problems.***

threat against NNSA secrets by some very sly adversaries.

Vigilance is the best tool that NNSA has in its arsenal to thwart the attempts by those with interests inimical to that of our government. Vigilance allows us to protect information, operations, facilities and our colleagues from exploitation.

It is unwise for a person not trained in counterintelligence to attempt to act without consultation with counterintelligence professionals or to not report suspicious incidents. Your colleagues in the various counterintelligence offices throughout NNSA are those best trained and

can be avoided or spotted and resolved before they become problems. Your counterintelligence office is the place to receive advice and counsel on how to handle situations that may be of a counterintelligence significance or pose a threat.

Remember, vigilance is our best tool to protect against hostile foreign threats. For additional information or to report a concern, please contact your site counterintelligence office.

# Surplus Uranium Project Earns Engineering Award

An NNSA project to use down blended surplus U.S. highly enriched uranium (HEU) as nuclear reactor fuel in Tennessee Valley Authority (TVA) reactors has been recognized as the Energy Engineering Project of the Year by Platts publications. The project helps to accomplish important U.S. nonproliferation goals.

Platts presented the award to TVA on December 1, during the Global Energy Awards ceremony in New York City. Platts Global Energy Awards recognize outstanding achievement and vision in the global energy industry.

As part of this project, HEU is down blended to low enriched uranium (LEU) at the Department of Energy's Savannah River Site in South Carolina and at Nuclear Fuel Services in Erwin, Tenn. Once down blended, this material can no longer be used in nuclear weapons. Framatome Advanced Nuclear Power fabricates the resulting LEU into nuclear reactor fuel at facilities in Tennessee and Washington. In April 2005, the first batch of this LEU fuel was loaded into Unit 2 at TVA's Browns Ferry Nuclear Plant in Alabama.

# LLNL And ORNL Provide Training For Russian Nuclear Security Program

Nuclear materials security for the Russian Federation Navy has been enhanced through the efforts of the Lawrence Livermore and Oak Ridge national laboratories. Working under NNSA's Material Protection, Control and Accounting (MPC&A) Program, employees from the two laboratories developed a training program for use in Russia's Kola Technical and Training Center, a new training complex for nuclear security professionals established cooperatively by NNSA and the Russian Ministry of Defense.

Located in Severomorsk, about 400 miles northeast of Moscow on the Barents Sea, the center will serve as a security training hub for the western third of Russia, including 11 Navy bases and sites.

Built with U.S. funds, the facility has space for offices, classrooms, conference rooms and maintenance and testing workshop areas. About 400 Russian Navy security managers, system operators and others are expected to receive training on MPC&A security systems in fiscal year 2006.

# Office of Secure Transportation Facility Groundbreaking



**NEW OST FACILITY:** Office of Secure Transportation (OST) managers, along with representatives of the U.S. Army Corps of Engineers (USACE) and a construction firm, broke ground recently for a new operations and training facility for OST on Kirtland Air Force Base in New Mexico. The facility will be occupied by late September. Pictured left to right are: Steve Weldon, Deputy Director of Facilities, Agent Operations Western Command (AOWC); Lt. Col Tod Wang, USACE District Engineer; Dennis Reese, Acting Assistant Deputy Administrator, OST; Rich Richey, Acting Deputy Assistant Deputy Administrator, OST; Mark Romwalter, Director, AOWC; Mike Flynn, Manager, Office of Mission Operations, OST; and Robert Cooley, President, Cooley Constructors, Inc.

# Karney Is Federal Champion

**OUTSTANDING PERFORMANCE:** Kansas City Site Office safety manager Cathy Karney recently received the Federal Champions Award for outstanding performance and leadership through her work helping other sites achieve DOE Voluntary Protection Program (VPP) status. Karney oversees Kansas City Plant safety operations and works within the VPP program, which promotes safety and health excellence through cooperative efforts among labor, management and government at DOE contractor sites.



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**Got an article for the NNSA Newsletter?**  
Submit it for consideration to [astotts@doeal.gov](mailto:astotts@doeal.gov)