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Los Alamos RFP, Y-12 And Pantex Extensions Announced

NNSA has issued a final Request for Proposals (RFP) for the competitive selection of a management and operating contractor for Los Alamos National Laboratory in New Mexico.

The agency has also announced plans to extend BWX Technologies (BWXT) contracts to manage Y-12 National Security Complex (Y-12) in Oak Ridge, TN, and the Pantex Plant in Amarillo, TX.

Potential offerors for the Los Alamos contract have until July 19 to submit proposals. NNSA anticipates announcing an award by December 1.

Proposals for the Los Alamos contract will be evaluated and

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Highly Enriched Uranium Repatriated From Latvia

Three kilograms of highly enriched uranium (HEU) that could be used for nuclear weapons were safely returned to the Russian Federation from Latvia under the National Nuclear Security Administration's Global Threat Reduction Initiative (GTRI) in a mission completed on May 25. The mission was a joint effort between the United States, Latvia, Russia, and the International Atomic Energy Agency (IAEA).

"The recovery, return and eventual elimination of highly enriched uranium is an important component of the administration's Global Threat Reduction Initiative campaign to reduce the threat posed by dangerous nuclear and radiological material worldwide," said NNSA Administrator Linton F. Brooks. "We applaud the strong leadership of Latvia for taking measures to secure this material and

This is the seventh successful shipment of HEU being returned to Russia.

(continued on page 2)



HEU SECURED: While news cameras film the mission, Dr. Igor Bolshinsky of NNSA's Office of Defense Nuclear Nonproliferation secures nuclear materials at a Latvian facility.

Highly Enriched Uranium Repatriated From Latvia

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working cooperatively with the United States, Russia and the IAEA to successfully return it to Russia.”

The HEU was airlifted under guard from an airport near Riga, Latvia, to a secure facility, NPO Luch, in Podol’sk, Russia. There, the HEU will be down-blended to low enriched uranium.

The nuclear fuel was originally supplied to Latvia by the Soviet Union for use in the Soviet-designed research reactor, located in Salaspils near the Latvian capital, Riga. In 1997, NNSA and the Latvia Nuclear Research Center completed a joint project to upgrade security of the nuclear material at Salaspils until it could be returned to Russia.

During the one-day mission, the HEU was loaded into two specialized transportation containers. IAEA safeguards inspectors and NNSA technical experts were present in Salaspils to monitor the process of loading the fuel into canisters. The facility in Russia that received the material has worked closely with the NNSA to implement security upgrades.

The mission of the GTRI 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.

This is the seventh successful shipment of HEU being returned to Russia. In the past two years, NNSA has repatriated a total of 57 kilograms of HEU to Russia from Romania, Bulgaria, Libya, Uzbekistan, and the Czech Republic. In August 2002, 48 kilograms of Russian-origin HEU were repatriated from a research reactor near Belgrade, Serbia.

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Editors: Al Stotts and Kim Krueger

Layout: Barbara L. Courtney

Contributors include: Kelly Cummins, NNSA HQ; Michele Dash, NNSA HQ; Kathy DeLucas, Los Alamos Lab; Tim Evans, NNSA HQ; Randy Montoya, Sandia Labs; Michael Padilla, Sandia Labs; Katherine Vogler, NNSA HQ; Amy Whitworth, NNSA HQ; Bryan Wilkes, NNSA HQ; Steve Wyatt, Y-12 Plant; Gordon Yano, Lawrence Livermore Lab



SPACE DAY SPEAKER: Former astronaut Sidney Gutierrez, now the Director of Systems Assessment & Research at Sandia National Laboratories in Albuquerque, talks to students visiting the National Atomic Museum on Space Day 2005. Space Day is an annual educational initiative sponsored by Lockheed Martin and dozens of other corporate and institutional partners.

SNL’s Julia Phillips Elected American Academy Of Arts And Sciences Fellow

Julia Phillips, director of the Physical, Chemical, and Nano Science Center at Sandia National Laboratories, has been elected fellow of the American Academy of Arts and Sciences.

She is among 196 new fellows and 17 new foreign honorary members. The 213 men and women are leaders in scholarship, business, the arts, and public affairs.

Fellows and foreign honorary members are nominated and elected to the academy by current members. A broad-based membership comprised of scholars and practitioners from mathematics, physics, biological sciences, social sciences, humanities and the arts, public affairs, and business, gives the academy a unique capacity to conduct a wide range of interdisciplinary studies and public policy research.

The academy will welcome this year’s new fellows and foreign honorary members at its annual induction ceremony on October 8 at the academy’s headquarters in Cambridge, Mass.

Phillips, who is also the director of the Center for Integrated Nanotechnologies (CINT), a DOE Office of Basic Energy Sciences nanoscience research center at Sandia and Los Alamos national laboratories, said she is honored to be elected into the academy.

Phillips began her career at Sandia in 1995 after 14 years at AT&T Bell Laboratories. She has a Ph.D. in applied physics from Yale University and a B.S. in physics from the College of William and Mary.

NNSA Security Upgrades Completed At Kurchatov Institute

The National Nuclear Security Administration has achieved a major milestone with the completion of comprehensive security upgrades at the Kurchatov Institute, a leading nuclear research center in Moscow, Russia.

NNSA Principal Deputy Administrator Jerald Paul joined Nikolai

RIBBON-CUTTING: Principal Deputy Administrator Jerry Paul and Kurchatov Vice-President Ponomarev-Stepnoy prepare to cut the ribbon at the ceremony celebrating the completion of security upgrades at Kurchatov.

Ponomarev-Stepnoi, the vice president of the Kurchatov Institute who hosted the ceremony. Sergey Antipov, deputy director of the Federal Atomic Energy Agency (Rosatom) of the Russian Federation, attended along with other Russian and U.S. officials.

The upgrades were completed by NNSA's Office of International Material Protection and Cooperation with the Russian Federation. The office works with foreign countries to secure nuclear materials by upgrading security at nuclear

sites, consolidating materials to sites where installation of enhanced security systems have already been completed, and improving nuclear smuggling detection capabilities at border crossings.



NNSA personnel, supported by nuclear security experts from several U.S. national laboratories, worked with Russian counterparts to secure nuclear material used at the research center.

Y-12 Park Volunteers Get National Award

Volunteering their time and talents to accomplish important projects in the Great Smoky Mountains National Park has earned the Y-12's Volunteers in Parks (VIPs) the 2004 National Park Service Accessibility Achievement Award.

The award highlights projects involving creation of handicapped accessible picnic sites at Walnut Bottoms, the Chimneys, and Cades Cove and singles out a project completed in late summer 2003 for special recognition.

That project involved the development of two fully accessible campsites in the Cades Cove Campground, which included building connector walkways and providing picnic tables, campfire rings and cooking grills. All of this work was accomplished by a team of 40 volunteers in just one day and was promoted as a "Take Pride in America" project. The citation also acknowledges that the Y-12 VIPs have performed more projects than can be specifically named.

The VIP national award is given to individual volunteers



Y-12's VOLUNTEERS IN PARKS: Volunteers from from the Y-12 National Security Complex work on an improvement project in the Great Smoky Mountains National Park in Tennessee.

or volunteer groups whose dedicated work in fundraising, leadership, park programs, or project design and construction has improved accessibility for persons with disabilities within the National Park System.

Over the past nine years, Y-12 has made an annual grant commitment of \$5,000 to the Great Smoky Mountains National Park and provided a

group of volunteers ranging from 35 to 135 persons for several project activities each year.

Bob Hawthorne, a charter VIP member, said, "All these folks who participate in this program love the Smoky Mountains. I'm proud of my association with this group of volunteers and this recognition is a great way for the Park Service to say thanks for their participation and their lasting legacy to the Great Smoky Mountains National Park. We look forward to continuing work on this project in the future."

NNSA Names David Jonas General Counsel

David S. Jonas has been named general counsel for the NNSA. Jonas, who has been NNSA's acting general counsel since August 2004, joined NNSA as deputy general counsel in September 2001.

"Dave's expertise and distinguished legal and military portfolio has been a great asset for NNSA," said NNSA Administrator Linton F. Brooks. "He has served his country well and I am pleased he will continue to apply his talents to addressing the complex legal issues facing NNSA."

Prior to joining NNSA, Jonas served at the Pentagon as the nuclear nonproliferation planner for the Joint Chiefs of Staff from 1997-2001. There he negotiated numerous international agreements and worked extensively with the United Nations, the International Atomic Energy Agency, and the Conference on Disarmament. He concluded his military service as a lieutenant colonel in 2001.

U.S.-Russian Project Enters Space Technology Hall Of Fame

An efficient "superfilter" able to extract bacteria, cysts, turbidity and even viruses from water was among four innovative space-based technologies inducted into the Space Technology Hall of Fame in Colorado Springs on Thursday, April 7, 2005, at the 21st Space Symposium, an event widely regarded as the premier gathering of the space industry.

Using nanometer-sized particles, the NanoCeram® Superfilter provides unsurpassed filtration efficiency and is used by NASA to develop advanced water recovery systems for long duration space flights. The filter was developed by Argonide Corporation of Sanford, Fla., and uses nanofibers originally developed at the Design Technology Center (DTC) in Tomsk, Russia.

DTC, previously known as the Republican Engineering Center, developed prototype materials for the Soviet nuclear weapons arsenal. During the 1970's, DTC perfected a process for manufacturing nanotechnology materials. Argonide founder Fred Tepper recognized the commercial potential of these unique nano fibers and powders. In 1994, Tepper helped to launch the U.S. Industry Coalition (USIC), a non-profit association of U.S. companies interested in technology commercialization with former Soviet weapons scientists and engineers.

Partnerships of USIC members with former Soviet scientists and their institutes are facilitated by Global Initiatives for Proliferation Prevention (GIPP), a nonproliferation program sponsored by the National Nuclear Security Administration. GIPP assists former Soviet weapons of mass destruction scientists and engineers to transition to long-term, sustainable non-military employment through technology commercialization partnerships with U.S. industry.

Naval Reserve Captain

Tracy Mustin, NNSA Office of Defense Nuclear Nonproliferation Director for the Second Line of Defense, receives her promotion to the rank of Captain in the United States Navy in a "pinning on" ceremony officiated by NNSA Administrator Linton F. Brooks at the Forrestal Building in Washington, D.C. In addition to being a crucial player in the stand-up of the Second Line of Defense Program and having the responsibility for adding 15 sites to the 60 sites already signed and the eight countries signed with the Megaports program, Mustin has spent her time away from the office serving in the Navy as a reserve officer for more than 21 years. At the ceremony she thanked Brooks and other NNSA managers for the significant level of support she and other reservists have received.



LANL RFP, Y-12 Extension

(continued from page 1)

assessed against the criteria contained in the RFP by a Source Evaluation Board (SEB), which is a panel of career NNSA officials chaired by Tyler Przybylek, NNSA's former general counsel. The SEB will submit its evaluation to a source selection official, Thomas P. D'Agostino, who will make the contract award decision. D'Agostino, is the acting deputy administrator for defense programs.

Following negotiations with BWXT, a new five-year contract to manage Y-12 is expected to become effective October 1, 2005. BWXT Y-12 is an enterprise of BWXT and Bechtel National, Inc. The Pantex Plant contract extension means BWXT will manage that facility until at least 2010.

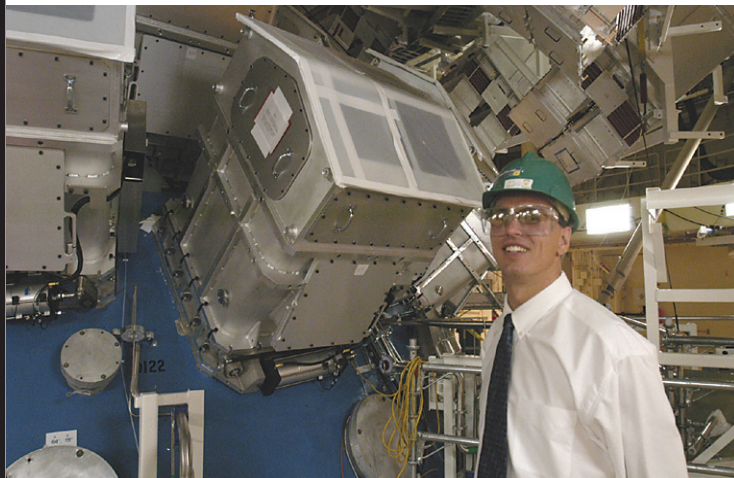
Los Alamos is a multi-program laboratory, funded at approximately \$2.1 billion for NNSA, other DOE programs, and other government agencies and private industry. The University of California has operated the laboratory since 1943 for DOE and its predecessors.

Y-12 is a key part of the national nuclear weapons complex. It manufactures parts from uranium and other special materials, specializing in the second stage of warheads. Y-12 also is responsible for the disassembly of warhead components and recycling of usable materials. It is the nation's storehouse for weapons-usable special nuclear material.

The Pantex Plant is the nation's only nuclear weapons assembly and disassembly facility. Randomly selected weapons from all active systems are returned to Pantex each year for surveillance testing and evaluation. The plant develops and researches the high explosives that surround the nuclear components of weapons and Pantex serves as an interim storage site for plutonium pits.

Lawrence Livermore Lab Researcher Wins Humboldt Award

Lawrence Livermore National Laboratory (LLNL) physicist Siegfried Glenzer has been awarded Germany's prestigious Humboldt Research Award. Glenzer, a member of the laboratory's National Ignition Facility (NIF) team, is one of only 100 scientists from around the world to be chosen for this year's award. The Humboldt Award brings researchers to Germany



to carry out projects of their own choosing

HUMBOLDT AWARD RECIPIENT: Lawrence Livermore National Laboratory's Siegfried Glenzer next to the National Ignition Facility laser target chamber.

in cooperation with German colleagues.

Glenzer will spend an academic year at the University of Rostock and at the Deutsche Elektronen Synchrotron facility in Hamburg. In Rostock, he will lecture and collaborate on planning and interpretation of X-ray experiments. In Hamburg, he will participate in the first short-wavelength free electron laser experiments beginning this year.

"Bringing up the first experiments at the free electron laser will be exciting," Glenzer said. "I am hoping to repeat my experience on the National Ignition Facility, where we brought up the first laser-plasma interaction experiments."

The NIF at LLNL will house the world's largest, most energetic laser when completed. NIF is being used in the nation's Stockpile Stewardship Program to ensure the safety and reliability of the U.S. nuclear weapons stockpile, as well as for research into astrophysics and basic physics.

The Humboldt Award was established to strengthen international cultural relations and promote science and learning through collaborations between distinguished researchers.

Years Of Work And Coordination Result In Successful Shipment Of MOX Assemblies To Carolina Power Plant

Four mixed oxide (MOX) fuel lead assemblies recently transported by NNSA's Office of Secure Transportation (OST) to the Catawba Nuclear Station near Clover, S.C., represent a major milestone in an NNSA program with Russia to dispose of surplus plutonium from nuclear weapons by fabricating it into MOX fuel for use in nuclear power plants.

The delivery was the result of a carefully planned and coordinated effort by NNSA's Office of Defense Nuclear Nonproliferation that was years in the making and the beneficiary of cooperation by numerous entities including NNSA and DOE facilities, the French and British governments, local law enforcement in South Carolina, the U.S. Nuclear Regulatory Commission, Duke COGEMA Stone & Webster and Duke Power, which operates the Catawba power plant.

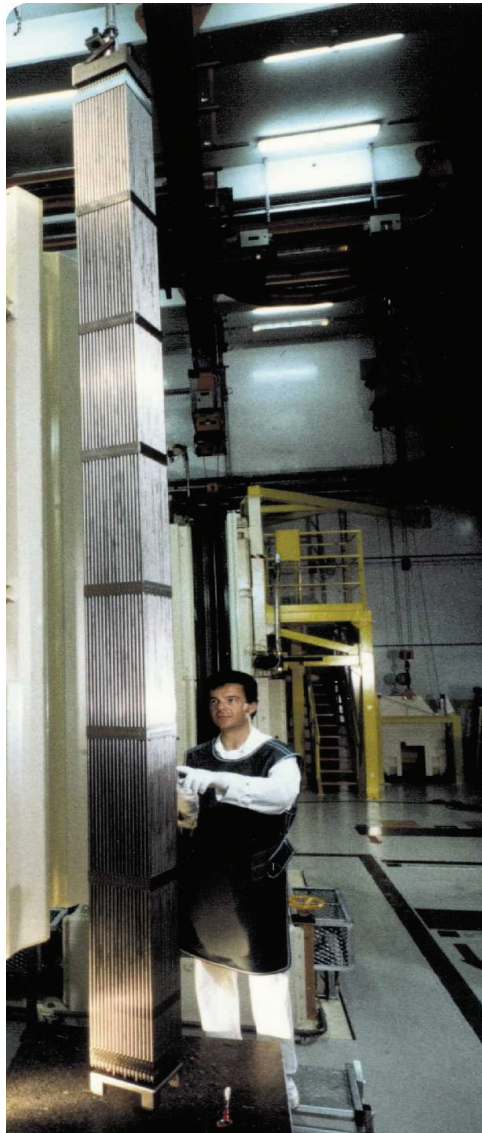
The program is designed to

demonstrate that a small amount of weapons-grade plutonium oxide combined with uranium oxide, the material normally used in nuclear power reactors to create energy, can be safely and efficiently used in commercial nuclear plants. Since the U.S. currently does not have the capability to make MOX fuel, the four lead assemblies were fabricated in France by AREVA, a technology corporation involved in nuclear power generation and electricity transmission and distribution.

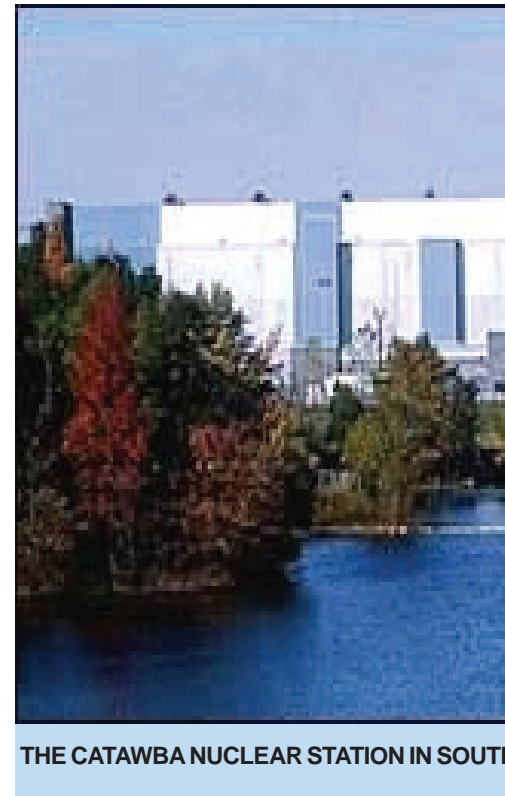
The Catawba MOX fuel lead assembly program will help pave the way for the future larger scale use of MOX fuel at Duke's McGuire and Catawba nuclear stations. In order to make the approximately 1900 MOX fuel assemblies required to dispose of 34 tons of weapons-grade plutonium, a MOX fuel fabrication plant will be built at the Savannah River Site near Aiken, S.C. Construction should begin next year.

NNSA's plutonium disposition program is working to eliminate 34 metric tons of surplus weapons-grade plutonium both in the United States and in Russia based on a 2000 nonproliferation agreement

between the two countries. Both countries will dispose of their plutonium by converting it to MOX fuel. Once the MOX fuel has been irradiated, the plutonium can no longer be readily used for nuclear weapons. "This project is an excellent example of a collaborative effort among NNSA, our international partners, and Duke Power. It is a major milestone for our nonproliferation effort to dispose of surplus weapons-grade plutonium in the United States and Russia", said Guy Lundsford



A MOX FUEL LEAD ASSEMBLY



THE CATAWBA NUCLEAR STATION IN SOUTH CAROLINA

of NNSA's materials disposition program.

The four MOX assemblies were initially stored at the Catawba plant. The approximately 14-foot tall, 1,500-pound fuel assemblies are virtually identical to the uranium oxide fuel assemblies typically used at the plant. The MOX fuel will be used in the Catawba Unit 1 reactor during two operating cycles, which will take about three years to complete. During use and in

“OST Played a critical role in the success of this project.”

Ken Bromberg
acting assistant deputy administrator for fissile materials disposition

Weapons-grade plutonium, however, has never been used as fuel in a commercial nuclear plant.

Everett Goodman, OST's coordinator for the lead assemblies project, said transporting the MOX fuel rods presented some unique challenges for his group, which normally delivers nuclear weapons, components and other nuclear materials to NNSA and Department of Defense sites. “Normally OST is just involved in transportation security,” he said. “But for this program we had to get involved in physical security as well. Bringing our level of materials into a



SOUTH CAROLINA

subsequent examination, Duke Power and AREVA will confirm that the fuel performs as expected. Some MOX fuel assemblies will be used for a third cycle in order to gather additional data.

Although MOX fuel has been used in many European nuclear plants for decades, Catawba is the first U.S. commercial nuclear plant since the early 1980s to use this type of fuel.

civilian facility required a joint security effort to meet our standards of protection. The Catawba plant made changes to their everyday security operations as a result of our physical protection needs. Guy Lunsford of materials disposition coordinated everyone involved to meet our security requirements.”

The MOX Four-Year Journey

August 2001 — Kickoff meeting in Washington, D.C.

October 2001 — Plutonium oxide packing options report

2002-04 — Polishing of plutonium oxide at Los Alamos, package handling dry runs

October 2003 — Export license for plutonium oxide issued

August 2004 — Department of Transportation approval for FS-47 container

September 2004 — Plutonium oxide departs Charleston, SC

October 2004 — Plutonium oxide arrives in France

February-March 2005 — Department of Transportation approval for FS-65 container

March 2005 — MOX departs France

April 2005 — MOX arrives in Charleston, SC

April 2005 — MOX arrives at Catawba Power Station

May 2005 — MOX unloaded at Catawba Power Station

Got an article for the NNSA Newsletter?

Submit it for consideration to Astotts@doeal.gov

Serf's Up At Los Alamos National Laboratory

A new facility that will save nearly 21 million gallons of water a year—the equivalent of about 100 households—became fully operational in May. The Sanitary Effluent Reclamation Facility (SERF) will be used to further treat sanitary effluent from the laboratory's domestic wastewater treatment facility.



SANITARY EFFLUENT RECLAMATION FACILITY: On an unusual rainy May day, John Immele, center, starts the SERF operations with the click of a mouse button.

The additional process that the effluent goes through at SERF removes the silica so that the water can be used in cooling towers for the Metropolis Center, the laboratory's supercomputing complex. Northern New Mexico has one of the worst dissolved silica problems in the country.

Silica naturally occurs in areas of high volcanic activity. Silica causes problems in cooling towers because it lowers the cooling efficiency by coating the fins of the towers and must be removed.

The \$4.5 million facility removes enough silica so that the water can be reused. Once the silica is removed and filtered off as sludge that goes to the landfill, the reclaimed water is then ready to be used in the cooling towers at the Metropolis Supercomputing Center. The water can be reused up to four times, saving the laboratory nearly 21 million gallons of water a year, historically obtained from the Los Alamos County aquifers. Of the water that is treated, only 2 percent ends up as sludge or evaporates.

The cycle begins with treated sanitary wastewater pumped to the SERF and stored in a 500,000-gallon water tank. Silica is then removed from the water by microfiltration and reverse osmosis. The water is then blended with sanitary effluent in a 2 to 1 ratio and sent to the cooling towers at the Metropolis Center. After being used through four cycles, the water is discharged into a permitted outfall in Sandia Canyon.

The facility is one of the first of its kind in the DOE complex. The well established technology is usually used for economic reasons. However this was done to protect the important water resource. One third of the laboratory's water is used in cooling towers to keep computers and equipment at optimum operating temperatures.

NNSA Security Office Rotates Staff Assignments

NNSA STAFF ROTATIONS: Associate Administrator for Defense Nuclear Security, William Desmond, (far right) and his deputy, Cheryl Stone, (second from left) present Debra McNeilly, Y-12 Site Office, and Michael Lowe, BWXT Y-12 National Security Complex, with awards for completion of rotational staff assignments at NNSA headquarters in Washington, D.C. The program gives both federal and contractor security staff the opportunity to gain broader experience in the overall Defense Nuclear Security Program. Desmond said the program is a significant step in improving communications channels. NA-70 will continue to actively pursue and encourage additional opportunities for future staff rotational assignments.

