DOE This Month

U.S. DEPARTMENT OF ENERGY

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'Super' magnet arrives at Pacific Northwest National Laboratory

Deputy Secretary Blake returns to private sector

First agreement reached in accelerated cleanup program

Department seeks clean coal technology projects

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U.S. Department of Energy

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Inside

On our cover

After nearly 10 years of anticipation by the scientific community, the world's highest performing and most stable magnet system for chemical, biological, and materials research was received on March 10, 2002, by the Department of Energy's (DOE) Pacific Northwest National Laboratory in Richland, Wash. The superconducting magnet weighs 16 tons and stands almost three stories high.

On March 13, it was lifted by crane into the William R. Wiley Environmental Molecular Sciences Laboratory (EMSL), a DOE scientific user facility. The magnet system is an important component of a 900 megahertz wide-bore nuclear magnetic resonance spectrometer that will be installed in the laboratory.

For more on the "super" superconducting magnet, see page 4.

First accelerated cleanup agreement reached

Following a series of recent meetings among Department of Energy (DOE), Environmental Protection Agency (EPA), and State of Washington officials, a Letter of Intent has been signed to accelerate cleanup at the Department's Hanford Site. Under the plan, the parties will work to complete cleanup operations at Hanford 35 to 45 years sooner than the current estimated completion date of 2070. This is the first agreement reached under the Department's new Environmental Management Accelerated Cleanup Program.

"Working with the states and other regulatory agencies, DOE is proposing a new way of doing business, leading to greater accountability, responsibility, and opportunities for both the Department and the states," Secretary of Energy Spencer Abraham said. "This agreement demonstrates the Bush Administration's commitment to accelerated cleanup and ensures progress long sought by the Department, EPA, and Washington State."

Funding requests for environmental management activities at the Hanford Site will increase by $433 million under DOE's Expedited Cleanup Account as details of the accelerated cleanup plan are finalized. This will bring the total Fiscal Year (FY) 2003 budget request to more than $2 billion for the Hanford Site.

The Department's FY 2003 budget request includes an $800 million Expedited Cleanup Account, out of which additional funds will be designated to those sites that choose to accelerate cleanup. The account might be expanded with more funds as additional sites agree to move to accelerated cleanup schedules. Under the Administration's proposal, all sites that reach an agreement will receive an FY 2003 funding request at least equal to their FY 2002 appropriations. In most cases, the funding request will be above the FY 2002 appropriations.

The Hanford accelerated cleanup agreement identified 42 improvement initiatives, including:

- accelerate retrieval of high-level waste from storage tanks;
- accelerate cleanup of the Columbia River corridor;
- improve Waste Treatment Plant capabilities to accommodate more waste;
- accelerate plutonium de-inventory work at the Plutonium Finishing Plant; and
- accelerate clean-out of the spent nuclear fuel storage facility.

DOE will develop a set of specific goals for physical progress by 2007 and 2012 that will represent a major acceleration from current cleanup plans as a first step. A draft of the work plan will be available to all parties by May 1, 2002; the parties plan to produce a final work plan by Aug. 1, 2002. Then, if necessary, changes will be proposed to the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement). ❖

Deputy Secretary Blake resigns; President to nominate Kyle McSlarrow to fill post

Deputy Secretary of Energy Francis Blake resigned his position at the Department of Energy (DOE) in mid March to return to the private sector. He has joined the corporate offices of Home Depot, the Atlanta-based construction and home improvement chain. "I enjoyed working at DOE and it has been a pleasure to serve in the Bush Administration," Deputy Secretary Blake said.

"Frank Blake has provided tremendous leadership helping implement the energy and environmental policies of the Bush Administration and providing critical management expertise in setting the agenda for the Department," Secretary of Energy Spencer Abraham said. "We will miss him."

On March 18, 2002, President George W. Bush announced his intention to nominate Kyle E. McSlarrow, currently Chief of Staff to Secretary Abraham, to be Deputy Secretary of Energy. The nomination is subject to Senate confirmation.

Kyle McSlarrow

"Kyle is a critical and invaluable member of the policy and management team at the Department and in this Administration," Secretary Abraham said. "Confirming Kyle as Deputy Secretary will provide a seamless transition, further bringing his management and policy skills to bear on the array of energy, defense, science, and environmental issues facing the Department."

Before joining DOE, McSlarrow was Vice President of Political and Government Affairs for Grassroots.com. From January 1997 to November 1998, McSlarrow was Chief of Staff to the late Senator Paul Coverdell. He served as Deputy Chief of Staff and Chief Counsel to the Senate Majority Leader between 1995 and 1997. Previously, he was an associate with the Washington, D.C., law firm of Hunton & Williams, where he practiced environmental and energy litigation. From 1985 to 1989, McSlarrow served as Assistant to the General Counsel of the Army, where he was the Army's lead attorney on environmental issues and research and development of major weapons systems. He is a graduate of Cornell University and the University of Virginia Law School. ❖

Science head Orbach takes oath of office

On March 13, 2002, Secretary of Energy Spencer Abraham administered the oath of office to Raymond Orbach as Director of the Department of Energy's Office of Science. Orbach was confirmed by the United States Senate on March 4.

"Ray's over three decades experience as a practicing scientist and his demonstrated leadership skills as an administrator who led a major university campus will serve the Department well," Secretary Abraham said.

Orbach will serve as science advisor to Secretary Abraham and as Vice Chair of the Department's Research and Development Council. He will direct the activities of the Office of Science, which has an annual budget of $3.3 billion. The office is the principal funding agency of the Nation's research programs in high-energy physics, nuclear physics, and fusion energy sciences. It also manages research programs in basic energy sciences, biological and environmental sciences, and computational science, and is responsible for constructing and operating large scientific user facilities. Ten of the Department's laboratories are under the jurisdiction of the Office of Science.

Orbach, a theoretical physicist, has been Chancellor of the University of California, Riverside, since 1992. From 1982 to 1992, he served as Provost of the College of Letters and Science at the University of California, Los Angeles. Orbach joined the University of California in 1963 and became a full professor in 1966. He received a B.S. in physics from California Institute of Technology and a Ph.D. in physics from the University of California, Berkeley. ❖

Secretary Abraham administers the oath of office to Raymond Orbach.

'Super' superconducting magnet received at Pacific Northwest National Laboratory

After almost 10 years in the making and with great anticipation by the scientific community, the world's highest performing and most stable magnet system for chemical, biological, and materials research was received by the Department of Energy's (DOE) Pacific Northwest National Laboratory on March 10, 2002. The superconducting magnet—weighing 16 tons and standing almost three stories high—was lifted by crane into the William R. Wiley Environmental Molecular Sciences Laboratory (EMSL) on March 13.

The magnet system is an important component of a 900 megahertz wide-bore nuclear magnetic resonance spectrometer (NMR) that will be installed in EMSL, a DOE scientific user facility. As such, it will be available through a competitive proposal process to scientific users from around the country and world in EMSL's High Field Magnetic Resonance Facility.

The NMR spectrometer is similar to magnetic resonance imagers commonly used in hospitals. By manipulating magnetic spins at the atomic levels, NMR spectrometers allow scientists to determine structures and conformations of biological molecules, enabling insights into the complex protein machinery that makes all organisms work. The results of such investigations will impact scientists' understanding of environmental contaminant effects, cellular function and mechanisms, the onset and diagnosis of illnesses and disease, and biochemical pathways leading to new drugs and treatments.

"We were pushing the frontiers of science when we proposed this," said Dave Koppenaal, EMSL Associate Director for the Macromolecular Structure and Dynamics Group. "We knew this was a bold move and it was one we, and DOE, were willing to take because of the potential payoffs in terms of scientific discoveries."

A ceremony celebrating the arrival of the magnet was held on March 28 at the laboratory. U.S. Senator Maria Cantwell, DOE Headquarters officials, and representatives from the Department's Richland Operations Office participated in the event.

The Department's Office of Biological and Environmental Research in the Office of Science purchased the magnet system for a fixed price of $7.2 million in 1993. Delivery of the system was expected in 1996, but design and materials technology problems caused delays.

The system was manufactured by Oxford Instruments in England. Varian Inc. of Palo Alto, Calif., developed the system's innovative NMR probe, NMR console, and computer workstation and control software. Both companies will now commission the system, evaluate its performance, and bring it to power—called bringing it to field—over the next few months. The first studies using the 900 megahertz wide-bore nuclear magnetic resonance spectrometer are expected to begin late this summer. ❖

Labs achieve first 3D simulations of nuclear weapon explosion

Scientists at the Department of Energy's Lawrence Livermore and Los Alamos National Laboratories have completed the first full-system three-dimensional simulations of a nuclear weapon explosion. This achievement is an important milestone in the National Nuclear Security Administration's (NNSA) Stockpile Stewardship Program and crucial to the mission of the NNSA and its national security laboratories.

"This is a significant technical achievement," said John Gordon, Under Secretary for Nuclear Security and NNSA Administrator. "The NNSA's role in spurring the development of some of the fastest computers in the world is already paying dividends. We can now simulate an entire nuclear weapon explosion and learn critical information about the nation's weapons stockpile as it ages."

This latest achievement is part of the NNSA's Advanced Simulation and Computing (ASCI) effort, which involves NNSA employees; teams from Lawrence Livermore, Los Alamos, and Sandia National Laboratories; and key partners from the U.S. computer industry. The first phase of the program focused on development of computers of unprecedented speed and capacity. Now, the focus is on development of new multiple-physics simulation codes needed to identify, diagnose, and correct potential concerns about the aging U.S. nuclear stockpile.

Being able to simulate a complete weapon system allows national laboratory researchers to examine key physics issues through a combination of simulation, precision experiments, and analysis of data from past nuclear tests. Understanding these physics issues is critical to the manufacture of replacement weapon components and the refurbishment of aging stockpile weapons.

Both computer calculations ran on the ASCI White machine—the world's fastest and most capable supercomputer—at Lawrence Livermore National Laboratory (LLNL). The Los Alamos National Laboratory (LANL) and LLNL code teams used different successful approaches and both completed their simulations more than two months ahead of schedule. A laboratory-sponsored external review panel of distinguished physicists and computer scientists affirmed the success of both approaches.

The LANL team worked with Science Applications International Corp. (SAIC) and LLNL computer scientists on supercomputers at both laboratories. The Los Alamos simulation ran remotely over a secure network connecting the laboratories. The simulation used 1,920 of the 8,192 processors on the IBM ASCI White supercomputer at Livermore. The actual run time on the central processing unit was 122.5 days. Los Alamos researchers viewed the data using LANL's 3.1 teraOPS Silicon Graphics Blue Mountain supercomputer.

The Livermore simulation ran on more than 1,024 processors of the ASCI White machine and took 39 days to execute. The simulation produced important information about the nuclear weapons stockpile, including the primary and secondary yields, for comparison to past nuclear test data. ❖

Chu sworn in to lead radioactive waste office

Dr. Margaret S.Y. Chu was sworn in as Director of the Department of Energy's Office of Civilian Radioactive Waste Management on March 20, 2002. She was confirmed by the United States Senate on March 6. Chu will be responsible for advising the Secretary of Energy and the President on issues surrounding the ongoing scientific research and licensing of the Nation's first permanent geological repository for spent nuclear fuel and high-level radioactive waste.

Secretary Abraham welcomes Dr. Margaret Chu after administering the oath of office as her husband Tze-Yao looks on.

"I am pleased to have Dr. Chu join my team," Secretary of Energy Spencer Abraham said. "Her years of technical experience in nuclear waste management and environmental remediation will be a tremendous asset to the Department's Yucca Mountain program.

Chu has over 20 years of experience at the Department's Sandia National Laboratories that spans from research and development to program management. Most recently, she served as Director of the Nuclear Waste Management Programs Center under the Energy and Information Infrastructure Surety Program. Other Sandia positions she has held include Manager, Waste Isolation Pilot Program, and Deputy Manager, Technical Integration Department. Chu received a B.S. in chemistry from Purdue University and a Ph.D. in physical chemistry from the University of Minnesota. ❖

DOE-wide effort results in timely performance, accountability report

The Department of Energy (DOE) recently submitted its Fiscal Year 2001 Performance and Accountability Report to the President, Congress, and Director, Office of Management and Budget. Of significant note again this year is that the associated financial statements, a major component of the report, received a "clean" opinion from the public accounting firm KPMG, which conducted the audit for the Department's Office of Inspector General. A clean opinion means that the financial statements present fairly the Department's financial results and demonstrate commitment to sound financial management.

The Performance and Accountability Report is a comprehensive snapshot of DOE and its activities during Fiscal Year 2001. It quantifies the Department's assets and liabilities, details how DOE met expectations for 92 percent of its major programmatic goals, and discusses 13 major Departmental challenges facing management. The report also includes the auditors' discussion of areas the Department needs to address regarding performance measurement, unclassified information systems security, financial management at Western Area Power Administration, and environmental liabilities for active facilities.

The successful and timely submission of the report is a credit to the entire Department. A team effort on the part of Headquarters program and administrative offices, field organizations, DOE contractors, and the Inspector General is required. The report is based on information contained in the Department's financial systems, attestations provided by managers in their assurance memorandums submitted pursuant to the Federal Managers' Financial Integrity Act, and reports on program performance results by Headquarters organizations. The cooperation from the Office of Inspector General is essential due to the tight time frames for preparing and auditing the report.

Gregory Friedman, Inspector General (left), and Bruce Carnes, Director, Office of Management, Budget and Evaluation/Chief Financial Officer, present the Department's Fiscal Year 2001 Performance and Accountability Report to Secretary Abraham.

Copies of the Fiscal Year 2001 Performance and Accountability Report are scheduled for distribution to all DOE organizations this month. The report also is available at **http://www.mbe.doe.gov/progliaison/arpt/par2001.pdf**. ❖

First stage of clean coal initiative begins

On March 4, 2002, the Department of Energy released a solicitation offering $330 million in Federal matching funds for industry proposed clean coal technology projects. The solicitation is the first competitive stage of President George W. Bush's $2 billion, 10-year clean coal technology initiative. Industry has until Aug. 1, 2002, to submit proposals; winning projects will be selected by late December 2002.

"America cannot afford to turn its back on the 250-year supply of secure, low-cost energy represented by the massive coal reserves that lie within our national borders," Secretary of Energy Spencer Abraham said. "Yet, it has been nearly a decade since the Federal Government joined with the private sector to move promising new concepts to the point where industry can decide if they merit commercial deployment. Today's solicitation tells industry we are ready to help share the costs and risks of new technologies that have emerged in the last 10 years. Without our support, those technologies would likely remain in the laboratory."

Clean coal technologies represent a new class of pollution control and power generating processes that reduce air emissions. In many cases, they lower greenhouse gases to a fraction of the levels of older, conventional coal-burning plants.

The solicitation seeks projects that demonstrate or accelerate the commercial deployment of any technology advancement that "results in efficiency, environmental, and economic improvement compared to currently available state-of-the-art alternatives." Prospective projects must show the potential to move rapidly into the commercial market following the successful demonstration. For each project selected, industrial sponsors must be willing to at least match the Federal funding share. There also will be a requirement that royalties from commercially successful technologies be used to underwrite future clean coal research.

Additional details and the solicitation are available on the Office of Fossil Energy web site at **http://www.fe.doe.gov/**. ❖

Third annual DOE small business conference set for May

The Department of Energy (DOE) is conducting its Third Annual DOE-wide Small Business Conference in Orlando, Fla., May 19-22, 2002. The conference theme, "Roadmap to Government Contracting: Equipping You for the Journey," expresses the Department's desire to increase contracting opportunities and customer satisfaction through new and improved methods of interaction with small businesses and enhanced program initiatives.

The Department's commitment to engage small businesses in all categories is even stronger this year due to the impact that the Sept. 11, 2001, attack placed on the small business community. It is in the best interest of the United States economy to work even more diligently toward providing more contract opportunities to small businesses.

Several Federal agencies are partnering with DOE to host the conference. These include the Departments of Agriculture, Commerce, Defense, Housing and Urban Development, the Interior, State, Transportation, and Treasury; the United States Army; the Environmental Protection Agency; the National Security Agency; the Small Business Administration; and the General Services Administration.

Approximately 1,000 small businesses attended last year's conference. This year, about 1,500 to 2,000 small businesses are expected to attend. To register or for more information, visit the conference website at **http://www.smallbusiness-outreach.doe.gov/annual/**. ❖

During a recent visit to Technical Area 18 at the Department of Energy's Los Alamos National Laboratory (LANL), Tom Ridge (center), Director, Office of Homeland Security, listens as Evelyn Mullen of LANL's Nonproliferation and International Security Division talks about the radiation detectors (on table) used to locate and identify special nuclear material. At far right is John Gordon, Under Secretary for Nuclear Security/Administrator, National Nuclear Security Administration. Standing next to Mullen is LANL Director John Browne. ❖

Pilot program aids women, minority businesses

The Department of Energy's Office of Economic Impact and Diversity and National Energy Technology Laboratory (NETL) have formed a partnership with the African American and Hispanic Chambers of Commerce of Western Pennsylvania. Under the partnership, a pilot program is in progress to help women and minority business enterprises participate in energy commodity trading.

The pilot program promotes a financial mechanism known as the Funds Transfer Agent Agreement (FTAA), which allows organizations whose credit needs exceed their resources to buy natural gas. This is the way it works. A natural gas marketer inserts the FTAA in a purchase contract with the supplier and purchaser. A financial institution, usually a bank, acts as an intermediary and transfers payment from the purchaser to the supplier through a "blocked account." Because the financial institution ensures that funds are directed to the proper parties, a marketer is not required to provide a letter of credit. Obtaining a letter of credit, a lengthy and often expensive undertaking, traditionally has been a major obstacle facing minority- and women-owned businesses.

For the two chambers of commerce, the FTAA helps to overcome hurdles smaller organizations face when it comes to natural gas trading. The chambers will facilitate the entry of women and minority business enterprises into the gas commodities market by promoting the FTAA initially throughout Western Pennsylvania, then throughout Eastern Pennsylvania and West Virginia, before replicating the program across the nation. The FTAA pilot project and the first two phases of the FTAA initiative are expected to take about 12 months.

NETL and the two chambers will design a uniform approach that will provide the framework for educating people on how to use the FTAA. This will facilitate the expansion of the program and the use of the FTAA nationwide. Finding out what works and what doesn't during this first year will be instrumental in quickly implementing the funding mechanism's outreach plan to benefit more women- and minority-owned businesses. ❖

ORNL develops method to share research mice strains

Researchers at the Department of Energy's Oak Ridge National Laboratory (ORNL) have developed a way to transfer mouse stocks via the embryo. This will allow ORNL to share its 3,500 strains of research mice for studies among seven partners in the Tennessee Mouse Genome Consortium.

Over the next five years, the mouse embryos will be surgically implanted into germ-free mothers at the pathogen-free satellite facility at the University of Tennessee, a member of the consortium. The development of the procedure is significant because of its large scale and because it allowed the consortium to qualify for $12.7 million from the National Institutes of Health.

The strategies and procedure developed by ORNL also will ensure the efficient transfer of mouse stocks into the new pathogen-free mouse facility being built at the laboratory. At left, ORNL's Dabney Johnson examines a mouse in the current "Mouse House," which is home to some 60,000 pedigreed mice. ❖

Glovebags have new mission at Savannah River

After the initial anthrax incidents in our nation last fall, security contractor Wackenhut Services Inc. (WSI) realized the new hazards connected with handling mail and suspicious packages at the Department of Energy's (DOE) Savannah River Site. Concerned about area contamination and the safety of officers, Chief of Law Enforcement Mac Underwood contacted DOE Savannah River for permission to use glovebags to combat bioterrorism in the workplace.

The request was routed to Savannah River's Containment Fabrication Facility (CFF) which designs and fabricates radiological containments of any size for specific jobs sitewide. With Underwood's input, Roger Rabon of CFF designed and produced self-supporting portable glovebags with inflatable frames for WSI officers to carry in their vehicles for suspicious package and item field inspections.

The custom-made containments (at left) are getting a lot of attention from other DOE sites and law enforcement organizations. Savannah River's goal is to share the technology with interested parties. ❖

Article sparks interest in Atomic Energy Merit Badge

The Department of Energy's (DOE) Pantex Plant in Amarillo, Texas, a National Nuclear Security Administration facility, has sponsored the Atomic Energy Merit Badge program for Boy Scouts and Girl Scouts every other year since 1969. Volunteers from the Plant join with Scout leaders from the region to help about 100 Scouts earn the merit badges through hands-on activities on three Saturdays. Pantex also presented the program at the 1997 and 2001 Boy Scouts' National Jamborees. At left, BWXT Pantex's Mark Smith teaches Scouts about radiation.

The Pantex program was featured in a four-page article in the Boy Scout edition of the February 2002 *Boy's Life* magazine, which reaches about three million readers every month. Since the article ran, inquiries about the program have been received from Scout troops across the country. DOE sites interested in developing an Atomic Energy Merit Badge program may contact Debra Halliday, BWXT Pantex Educational Outreach Coordinator, 806-477-6035. ❖

Agreement with Turkey to boost energy technology

On March 20, 2002, U.S. Secretary of Energy Spencer Abraham and Zaki Cakan, Turkish Minister of Energy and Natural Resources, signed agreements that will encourage increased energy cooperation between the United States and Turkey. The accords include an Implementing Agreement between the Department of Energy and the Turkish Ministry for cooperation in energy technology, and a Project Annex for cooperation in development of coal and power systems. Assistance will be provided to enhance Turkey's development of clean coal technologies, diversify its natural gas supplies, and improve several other energy-related technologies—all key elements of the Administration's National Energy Plan.

"Turkey, like the United States, is fully aware of the benefits that energy-related research can bring in increased efficiency, reduced emissions, and stronger energy security," Secretary Abraham said. "These agreements provide evidence of the strong bilateral energy cooperation between Turkey and the United States and will enhance Turkey's ability to provide for its own energy needs through a diversified resource base." ❖

Lab collaboration produces portable radiation detector

Engineers and scientists at the Department of Energy's Lawrence Berkeley and Lawrence Livermore National Laboratories have developed a mobile, handheld, mechanically cooled germanium radiation spectrometer that detects signature gamma-rays from radioactive materials. The spectrometer also provides information on the quantities of radiation.

Dubbed Cryo3, the spectrometer, consisting of a hermetically encapsulated germanium detector, utility vacuum housing, micro cooler, and controller, weighs 10 pounds. Cryo3 can operate up to eight hours on two rechargeable lithium ion batteries.

The Cryo3 properties—precision energy resolution, good sensitivity, lightweight, low-power requirements, and mechanical cooling—mean that gamma-ray radiation spectrometers usually restricted to laboratory use now can be used in the field. The detector has clear applications for homeland security. The researchers say the device would be able to determine the types of radioactive materials no matter where they might be located—at a border crossing, in an airport, or even on a person. ❖

Cleanup, remediation progresses at Mound Site

BWXT of Ohio (BWXTO), the remediation contractor for the Department of Energy's (DOE) Miamisburg Environmental Management Project (Mound Site) in Miamisburg, Ohio, began demolition of "I" Building in late February. The 25,736 square foot, brick-faced, reinforced concrete building (at right) was built in 1956, with additions in 1962 and 1985. The building was used to assemble explosive actuators in support of defense programs. Prior to demolition, residual explosive materials and contamination were removed.

More than 40 percent of the Mound Site's 305 acres has been transferred to the Miamisburg Mound Community Improvement Corporation for reuse and economic development as a technology and industrial park. Since assuming responsibility for site remediation on Oct. 1, 1997, BWXTO has demolished, removed, or transferred to the community about half of the buildings at the site. The company recently submitted a proposal to DOE that will result in closure of the Mound Site in 2006 or earlier. ❖

Sandia conducts pilot project on smart cards

Access control technology is of vital importance to the Department of Energy (DOE) complex, as well as other Federal agencies, because it can be used to ensure that only authorized personnel are provided access to sensitive facilities. One technology being studied is the use of smart cards.

The smart card is similar to a security badge or credit card, but has the capability of providing both memory and computer processing through the use of embedded microelectronics. Unlike other cards, smart cards have the ability to carry all software and information needed for the card to function and do not require access to remote databases.

Testing has shown that smart cards are less vulnerable to attack than other cards. As a result, smart cards are often used in applications that require a stronger degree of security protection and authentication.

The Department of Defense has adopted the smart card technology for its "common access card." Other Federal agencies that have used or are evaluating the smart card include the Department of Transportation for commercial driver's licenses and public transit; the Department of Agriculture, tracking agricultural product quotas; and the Department of Treasury, stored value cards for troops serving in hostile areas.

Currently, researchers at the Department's Sandia National Laboratories are evaluating a hand geometry biometric verification system with a smart card reader for use by the DOE community for controlling access to remote locations. The system will be installed in four places which are representative of typical applications at DOE: a perimeter of a protected area for evaluation in a routine access environment; a doorway to a vault-type room; and two sites configured as stand alone units for evaluation as a "remote site" application.

Sandia National Laboratories is evaluating the HandKey II with Smart Card Reader system.

The research and pilot project are funded by the Technology Development Program in DOE's Office of Security. ❖

Savannah River finds use for TRUPACT-I shipping containers

The Department of Energy's (DOE) Savannah River Site has successfully completed its first onsite shipment of transuranic waste in a TRUPACT-I container. The waste was shipped from the site's HB Line facility to the Solid Waste Division.

The TRUPACT-I containers originally were built in the mid-1980's to ship transuranic (TRU) wastes to the Department's Waste Isolation Pilot Plant. The containers were tested for Nuclear Regulatory Commission (NRC) certification. Although they passed all the tests, the containers were turned down by NRC and discarded. The TRUPACT-I containers were stored at the Department's Idaho site.

In the early 1990's the Department mandated that all DOE sites come into compliance with Department of Transportation (DOT) regulations for onsite shipment of radioactive wastes. One waste stream that presented a particular problem was TRU waste, as this waste requires a Type B transport package.

Savannah River Site riggers Lawrence Smith, Ken Wood, Bobby Lowe, and Benjamin McClain open the internal door of the TRUPACT-I before shipment. The door has 26 bolts that must be removed before the door can be opened.

There were only two units in existence that had the capability to transport TRU waste. The primary unit, TRUPACT-II, was built to ship transuranic waste offsite to the Waste Isolation Pilot Plant; but it did not have the physical dimensions to handle onsite TRU packaging and costs $500,000 each. The other available package was the Super Tiger, which was privately owned, had a minimal payload, and only was available under an expensive lease.

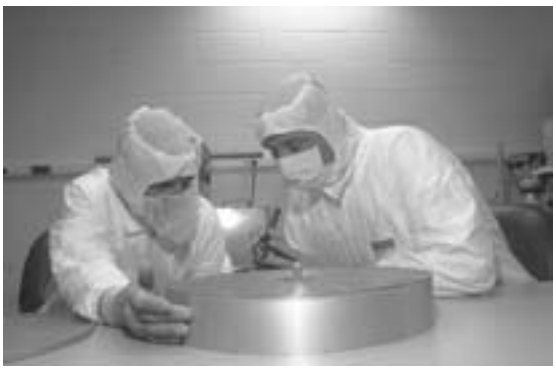
In December 1998, Brent Daugherty of Savannah River's Solid Waste Division initiated the recovery and refurbishment of the old TRUPACT-I units. The containers were approved for onsite use and pressed into service to meet DOT regulations at a cost savings of about $11 million. ❖

Laboratory instruments capturing the sun

Three instruments designed and built by the Department of Energy's Los Alamos National Laboratory (LANL) for the National Aeronautics and Space Administration's Genesis mission are now capturing particles from the sun. Genesis, a remote-controlled space mission, went into orbit Nov. 15, 2001, around the Lagrange 1, or L1 point, a place nearly one million miles from Earth toward the sun where the gravities of Earth and the sun are balanced.

Genesis will remain around the L1 point and return to Earth in 2004. During this time, the instruments will collect samples of the solar wind to reveal the makeup of the nebula that formed the solar system nearly five billion years ago and will help scientists understand the origin of the solar system. The pristine composition of the solar nebula is preserved for the most part in the outer layers of the sun. The solar wind provides a continuous flow of this material into space.

The main goal of Genesis is to determine isotopic ratios of different elements in solar matter, with a focus on oxygen—an element making up two thirds of everything found on Earth. Oxygen isotope ratios vary among the different planets in the solar system. This puzzles scientists because all solar system bodies supposedly were formed from the same raw materials.



Dan Everett, Space and Atmospheric Sciences, LANL (left), lead concentrator technician, and Rick Paynter, Jet Propulsion Laboratory, perform a final check on one of the solar wind concentrator grids during final assembly of the instrument.

LANL designed and built a solar wind concentrator to collect a high concentration of oxygen and return the sample back to Earth for analysis. The concentrator takes solar wind and passes it through a series of electrically charged grids into a bowl-shaped mirror. The mirror reflects a filtered stream of elements heavier than hydrogen upward into a centrally poised collector tile, where oxygen and other elements embed themselves.

The other two LANL instruments aboard Genesis are solar wind ion and electron monitors. The monitors instantaneously determine the speed, density, temperature, and approximate composition of the solar wind and translate that knowledge into actions for the solar wind concentrator and solar wind collector arrays.

The three instruments were designed and constructed by LANL's Space and Atmospheric Sciences and Space Instrumentation and System Engineering groups.

Genesis will collect just 10 to 20 micrograms of solar wind—the equivalent of a few grains of salt. The material will return to Earth in the spacecraft's specially designed sample return capsule for study by scientists. ❖

Research DIGEST

The Department of Energy's **National Energy Technology Laboratory** (NETL) and Fluent Inc., Lebanon, N.H., have signed a two-year cooperative research and development agreement to develop and validate a novel fuel cell simulation tool capable of performing detailed analyses of fuel cells, a technology that soon could be used to power automobiles, as well as small stationary and portable units. The work builds on existing fuel cell codes sponsored by NETL to develop solid oxide fuel cells. The cooperative research will now provide the same capability for analyzing Polymer Electrolyte Membrane Fuel Cells (PEMFC). (David Anna, 412-386-4646))

A new brain-imaging study conducted at the Department of Energy's **Brookhaven National Laboratory** offers insight into why individual patients respond differently to standard doses of Ritalin, a drug used to treat millions of children with Attention Deficit Hyperactivity Disorder each year. The study appears in the March 1, 2002, issue of the journal *Synapse*. Doses of Ritalin required to achieve clinical responses vary significantly from patient to patient. The study suggests the variation may be due, in part, to individual variation in the release of dopamine, a neurotransmitter associated with feelings of reward and pleasure. (Karen McNulty Walsh, 631-344-8350)

A prototype handheld detector under development at the Department of Energy's **Sandia National Laboratories** can identify the fatty acid methyl esters (FAME) of anthrax in less than five minutes. Identification of the bacillus in minutes, rather than the hours currently necessary, is a crucial step in alerting building occupants and activating defenses, such as anti-anthrax foam dispersal systems. The patent-applied-for detector works by preconcentrating airborne particles on a tiny hotplate that acts like a skillet on a stove. The hotplate immediately vaporizes the fatty acids in anthrax cell walls to create the FAME that form the bacteria's unique fingerprint. (Neal Singer, 505-845-7078) ❖

Education NOTES

Most Department of Energy (DOE) facilities and laboratories have ongoing educational programs to encourage young women to consider careers in science and technology. Here are some recent successful efforts:

- About 380 high school girls from more than 60 schools throughout the Chicago, Ill., area participated in the 15th annual "Science Careers in Search of Women" conference at the Department's **Argonne National Laboratory** on March 8, 2002. The program featured talks by Argonne women professionals, career planning and college panel discussions, lunch with women scientists, and laboratory tours.
- Brookhaven Women in Science High School Career Day was held on Feb. 12, 2002. About 45 female students from four local New York high schools learned firsthand about careers in science and related fields from women employees at DOE's **Brookhaven National Laboratory** (BNL). The program also featured tours of BNL's Relativistic Heavy Ion Collider and Scanning Transmission Electron Microscope.
- Six hundred girls in grades 6 to 12 registered to attend the 23rd annual Expanding Your Horizons in Science and Technology Conference on March 9, 2002, at the Department's **Lawrence Livermore National Laboratory** in California. The conference was designed to foster young women's interest in science and mathematics through positive, hands-on experience and interaction with women active in science and math careers.
- About 120 girls from northern and central New Mexico discovered the wonders of mathematics and science in the Expanding Your Horizons program on March 13, 2002, at DOE's **Los Alamos National Laboratory**. Students in grades 8 through 10 took part in hands-on workshops presented by female scientists, engineers, and professionals. ❖

Middle school students learn about engineering

In honor of National Engineers Week, Feb. 17-23, 2002, technical professionals at the Department of Energy's Savannah River Site in South Carolina took local middle schools by storm, delivering the message that engineering and technology-based careers can be fun and rewarding.

Savannah River Site's Mary Harris (right) uses a groundwater model to demonstrate remediation at the second annual "Introduce a Girl to Engineering" Day.

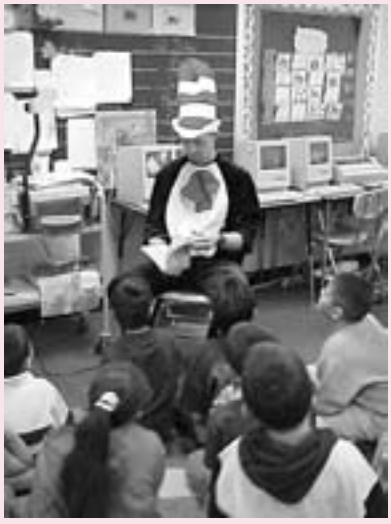
About 2,600 middle school students and teachers from Georgia and South Carolina attended Technology Days 2002 at the National Science Center's Fort Discovery in Augusta, Ga. Speakers and interactive exhibits from the Savannah River Site, local industry, and Fort Discovery provided students with a hands-on approach to learning about different technology fields, including robotics, weather, environment, Internet, and electronics. An after-hours technology event was attended by 1,400 Savannah River employees, their families, and the general public.

"Introduce A Girl to Engineering," a day-long event at the University of South Carolina Aiken's Ruth Patrick Science Education Center, attracted about 50 girls from 20 middle schools in the Central Savannah River Area. The girls had an opportunity to interact with Savannah River Site professionals to learn more about engineering careers.

Active and retired Savannah River Site scientists and engineers conducted "teach-ins" at local middle schools in 12 counties in South Carolina and Georgia. By participating in the supervised hands-on demonstrations, the students were given a taste of what it feels like to solve engineering challenges.

All the events were designed to continue to take small steps toward easing the approaching shortage of workers skilled in the engineering disciplines. ❖

Employees at the Department of Energy's Golden Field Office, Denver Regional Office, and National Renewable Energy Laboratory (NREL) collected 1,602 new and used books to give to Columbia Elementary School in Denver, Colo. On March 1, 2002, Todd Wessels, NREL, joined other employees to deliver the books and spend time reading with the students. The event was part of "Read Across America Day," a National Education Association campaign that celebrates reading with children and Dr. Seuss' birthday.



COMING Events

May

3-6 12th Annual National Science Bowl, National 4-H Conference Center, Chevy Chase, Md. Sponsored by the Department of Energy. The winning teams of high school students from regional tournaments held across the United States from January through March 2002 will compete in the national finals. To volunteer or if any questions, contact Sue Ellen Walbridge, SC-1, 202-586-7231 or sue-ellen.walbridge@science.doe.gov. Additional information on the National Science Bowl is available at **http://www.scied.science.doe.gov/nsb/**.

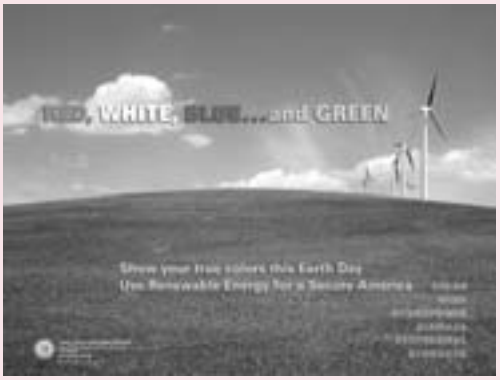
13-15 2002 Windsor Workshop, Windsor, Ontario, Canada. Cosponsored by the Department of Energy and Natural Resources Canada. The workshop is a venue for specialists from the automotive industry, governments, and academia to share information on the latest transportation technology developments and the future direction of the transportation industry. For more information, contact Joanne Wiseman, phone 613-947-9824 or fax 613-996-9416, or visit **http://www.windsorworkshop.ca**.

June

2-5 Energy 2002, Energy Efficiency Workshop and Exposition, Palm Springs, Calif. Cosponsored by the Department of Energy's Federal Energy Management Program, the Department of Defense, and the General Services Administration. The workshop, designed for Federal, state, and local government and private sector energy managers, offers the opportunity to learn about the latest cost-effective energy-saving, renewable energy, and water efficiency products and equipment, and to share success stories. For additional conference and registration information, contact JoAnn Stirling, Florida Solar Energy Center, 800-395-8574, or visit **http://www.energy2002.ee.doe.gov**. ❖

Earth Day 2002

Traditionally, tens of thousands of activities are held across the country each year on April 22 and throughout the month in observance of Earth Day. Department of Energy (DOE) Headquarters and field sites nationwide are joining in on this year's festivities by coordinating events, exhibits, and community fairs highlighting energy awareness and the importance of energy resources, efficient energy use, and energy conservation to a healthy future for our planet.



The Federal Energy Management Program (FEMP) in the Department's Office of Energy Efficiency and Renewable Energy is distributing energy awareness materials to Federal agencies and State and local governments holding Earth day fairs and events. Among the materials is an Earth Day poster with the theme "Red, White, Blue...and Green." The Earth Day poster and other materials can be ordered through DOE's Energy Efficiency and Renewable Energy Clearinghouse, 800-363-3732. For more information, contact Annie Haskins, FEMP, 202-586-4536. ❖

NEW ON THE Internet

Methane hydrate research

The Strategic Center for Natural Gas at the Department of Energy's National Energy Technology Laboratory (NETL) has a new National Methane Hydrate R&D web site, **http://www.netl.doe.gov/scng/hydrate**. The site is a repository of information dealing with methane hydrate issues, including resource characterization, methane production, global carbon cycle and climate change, and safety and sea floor stability. Featured topics include a research newsletter, the National R&D Program, interagency coordination, and a data bank. Development input was provided from the U.S. Geological Survey, the Naval Research Laboratory, the National Oceanographic and Atmospheric Administration, the Minerals Management Service, and the National Science Foundation.

Virtual tour of Fernald

The Department of Energy and its cleanup contractor, Fluor Fernald, are using 360-degree images to demonstrate to the public the complexity of the Fernald Environmental Management Project cleanup. Images of several cleanup projects have been added to the Fernald web site at **http://www.fernald.gov/Vimages/vi.htm**. Stakeholders can observe and tour field activities normally off limits because of safety restrictions without leaving their home or office. Featured projects include demolition work inside former uranium processing plants, the Silos Accelerated Waste Retrieval, the Advanced Wastewater Treatment Facility, and a panoramic view of the Fernald Site from the top of a 150-foot-high water tower. For more information, contact Dave Hinaman, 513-648-4899 or david.hinaman@fernald.gov. ❖

People IN ENERGY

Maria Vargas is the new Senior Management and Technical Advisor in the Petroleum Technology Office at the Department of Energy's National Energy Technology Laboratory (NETL). Previously, she has held management positions at NETL and the Department's Rocky Flats Site and Richland and Savannah River Operations Offices. She also worked as a petroleum engineer on an offshore platform in the Gulf of Mexico for Mobil Oil and for Welex, a well logging company.

John Gordon, Under Secretary for Nuclear Security and Administrator, National Nuclear Security Administration (NNSA), recently announced his intent to appoint **John Arthur** as Manager of the Department of Energy's NNSA Albuquerque Operations Office, succeeding **Rick Glass**, who has accepted a management position with a private sector firm in Tennessee. Prior to becoming Acting Deputy Manager for Albuquerque Operations in May 2001, Arthur was Acting Assistant Manager, Office of National Defense Programs. He earlier served as Assistant Manager, Office of Environmental Operations and Services.

Former **Brig. Gen. Bob Summers** has been appointed Director of Defense and Infrastructure Systems at the Department of Energy's Idaho National Engineering and Environmental Laboratory. Most recently, Summers was Director of Combat Support at the Defense Threat Reduction Agency, where he directed analytical and operations support with an emphasis on nuclear, chemical, and biological threats. He transitioned from the U.S. Air Force in 2000.

There are several leadership changes at Department of Energy field sites effective April 1. **Leah Dever**, Manager, Oak Ridge Operations Office, is detailed to Headquarters' Office of Science to head its Office of Laboratory Operations and Environment, Safety and Health. **Michael Holland**, Manager, Brookhaven Area Office, has become interim manager of Oak Ridge Operations. **Frank Crescenzo**, currently Deputy Manager, Brookhaven Area Office, will serve as Acting Manager of that office. **Ed Cumesty**, Deputy Manager, Oak Ridge Operations, is detailed to Headquarters to lead a team to look at opportunities to re-engineer processes within the Office of Science.

Ward Plummer, a distinguished scientist in the Solid State Division at the Department of Energy's Oak Ridge National Laboratory and distinguished professor of physics at the University of Tennessee, is the recipient of the 2001 Medard W. Welch Award from the American Vacuum Society. The award, the society's highest honor, recognizes Plummer for "the development of novel instrumentation, its use to illuminate new concepts in the surface physics of metals, and the mentoring of promising young scientists."

Engineers **Raymond Ng** and **Shawn-Yu Lin** of the Department of Energy's Sandia National Laboratories and **Paul Y. Pan** of the Department's Los Alamos National Laboratory (LANL) are among 17 researchers nationwide to receive the first Asian American Engineer of the Year award from the Chinese Institute of Engineers/USA. Lin was recognized for contributing to a broad range of pioneering advances in the field of photonic crystals; Ng, for his work as manager of engineering design services at Sandia, Livermore; and Pan, for his technical and managerial leadership in LANL's Weapons Systems Engineering Group.

Dr. Margaret Tolbert, Director of the Department of Energy's New Brunswick Laboratory, Argonne, Ill., received one of the top 23 awards at the 2001 Women of Color Technology Government and Defense Technology Awards Conference. Tolbert was honored for her achievements and leadership in technology and program management, which have played a vital role in fulfilling the Department's nuclear safeguards mission.

Sally Gadola, an occupational health nurse at the Department of Energy's Oak Ridge Institute for Science and Education, has been appointed by President George W. Bush to serve on the newly formed Advisory Board on Radiation and Worker Health. The board, which includes scientists, physicians, and workers, advises the Department of Health and Human Services about activities under the Energy Employees Occupational Illness Compensation Program Act.

Glenn Mara has been named Associate Director for Engineering at the Department of Energy's Lawrence Livermore National Laboratory (LLNL). He will lead more than 2,200 engineers, designers, technicians, machinists, and other personnel in the Engineering Directorate. Mara joined the LLNL staff in 1971 and has served in several capacities, including most recently as Principal Deputy Project Manager in the National Ignition Facility Program Directorate.

David P. Weber has been appointed Director of the Reactor Analysis and Engineering Division at the Department of Energy's Argonne National Laboratory. Weber has served as Associate Director of the division and senior nuclear engineer since 1994. Previously, he was research program manager in the Office of the Director for Engineering Research. ❖

Milestones

YEARS OF SERVICE

April 2002

Headquarters

Economic Impact & Diversity - Gloria B. Smith (30 years), Nickolas A. Demer (25). **EIA** - John F. Carlin, Jr. (30), Peggy A. Wells (30), Mary E. Joyce (25), William R. Underwood (25). **Energy Efficiency & Renewable Energy** - Gloria L. Elliott (35), Ralph E. Gierens (30). **Envir., Safety & Health** - Glenn R. Florczak (30), Bal M. Mahajan (30).

FERC - Thomas F. Koester III (30), Richard L. Miles (30), Barbara A. Murray (30), Bolton S. Pierce, Jr. (30), Richard B. Taug (30), Vera E. Vaughns (30), Linwood A. Watson (30), Kayothia Jarnagin (25), Michael P. Lacy (25), Lynn R. Miles (25), Samuel Soopper (25), Dean C. Wight (25). **Fossil Energy** - Francis J. Gangle (30). **General Counsel** - Paul A. Gottlieb (30), Daniel T. Ruge (25).

Hearings & Appeals - Richard T. Tedrow (30). **Inspector General** - Howard C. Melton (40), Lawrence R. Ackerly (35), Raymond G. Busen (35). **Management, Budget & Evaluation** - Logan L. Watts (40), Margaret M. Brooks (30), Jerome M. Butler (30), Patricia A. Mason (30), Stephen M. Smith (30), Charles Z. Belcher (25), Helene Mattiello (25), Deborah K. Perrell (25), Daphne K. Moses Tilly (25).

NNSA - Lillian Zaring (30), Jimmie P. Mulkey (25), William C. O'Connor (25). **Public Affairs** - Laura I. Brown (35). **Radioactive Waste** - Deborah S. Urban (25). **Science** - Daniel R. Lehman (25).

Field

Albuquerque/NNSA - Diana L. Roybal (35), David F. Trujillo (30), Debra A. Garcia (25), Gerald G. Hammond (25). **Chicago** - Larry Thompson (30). **NETL** - John R. Rotunda (30), Dennis C. Stanko (30), Darlene D. Riggi (25). **Nevada/NNSA** - Charles W. Montana, Jr. (25). **Oakland/NNSA** - Barry Williams (30). **Richland** - Ricky L. Stutheit (30), Barry G. Weaver (25).

Rocky Flats - Charles A. Dan, Jr. (25). **Savannah River** - Gordon M. Nichols, Jr. (40). **Southwestern Power** - Raymond Harris (35). **Western Area Power** - Vicky L. Claassen (35), William J. Folk (35), Linda S. McGlothlin (30), Anthony Toliver (30), Paul A. Wermerson (30), Frederic S. Cook (25), Augustine M. Morales (25), Merlin T. Thompson (25).

Bonneville Power - Jon V. French (35), James E. Gardner (35), James P. Donaly (30), Henry J. Garcia (30), Joni E. Leiding (30), William D. Madden (30), Elizabeth A. Paul (30), John B. Pyrch (30), Gerald E. Ratcliff (30), James W. Rustvold (30), Roy P. Smithey (30), William A. Wagner (30), Burton C. Wheelon (30), Janet M. Burns (25), Lonnie E. Jones (25), James A. Nelson (25), Frederick H. Sheppard (25), Joseph W. Ullman (25), Melody L. Walker (25).

RETIREMENTS

February 2002

Headquarters

EIA - Edward J. Flynn (30 years). **Envir., Safety & Health** - Heather G. Stockwell (10). **FERC** - James Goris (36), Sylvia A. Taylor (32).

Field

Albuquerque/NNSA - Jackie D. Roberts (21), Ronald J. Simonton (10). **NETL** - Patricia M. Sienko (34). **Oakland/NNSA** - James T. Davis (33). **Southwestern Power** - Gerald D. Johnson (37).

March 2002

Headquarters

EIA - Georgia A. Collier (36). **Inspector General** - E. Elaine Easter (30). **Management, Budget & Evaluation** - Sonia E. Wiard (20). **Science** - William F. Dove (36), Betty L. Velthuis (35).

Field

Western Area Power - Perry D. Houston (16), Leslie M. Mahin (12), Robert G. Rodman (34). ❖

NEW Publications

Annual Energy Outlook 2002 With Projections to 2020 (DOE/EIA-0383-2002), from the Department of Energy's Energy Information Administration (EIA), projects that U.S. energy demand will increase 32 percent by the year 2020, reaching 131 quadrillion Btu, assuming there are no changes in Federal laws and regulations. The report is available on the Internet at **http://www.eia.doe.gov/oiaf/aeo/**.

Additional information on EIA reports is available from the National Energy Information Center, EI-30, Room 1E-238 Forrestal Building, USDOE, Washington, DC 20585, phone 202-586-8800.

Passive Magnetic Resonance Anomaly Mapping at Environmental Management Sites (DOE/IG-0539); ***Advanced Radioisotope Power Systems Program*** (DOE/IG-0540); ***Remediation and Closure of the Ashtabula Environmental Management Project*** (DOE/IG-0541); ***Soil Washing at the Ashtabula Environmental Management Project*** (DOE/IG-0542); ***Relativistic Heavy Ion Collider Project*** (DOE/IG-0543). The reports are available from the U.S. Department of Energy, IG Reports Request Line, 202-586-2744, or at **http://www.ig.doe.gov/**. ❖

April 2002

AROUND DOE

U.S., Uzbekistan agree on nuclear nonproliferation

On March 12, 2002, Secretary of Energy Spencer Abraham and Uzbek Minister of Foreign Affairs Abdulaziz Kamilov signed an Implementing Agreement to facilitate cooperation on nuclear nonproliferation between the United States and Uzbekistan. The Implementing Agreement provides the groundwork to execute a June 2001 agreement to perform joint work on nuclear nonproliferation.

"This project is an excellent opportunity for the United States and Uzbekistan to work together to reduce the threat of terrorism and prevent the spread of weapons of mass destruction," Secretary Abraham said. "It reinforces President Bush's commitment to work with our partners in the region and take practical steps to improve the physical protection and accounting of nuclear materials and prevent illicit nuclear trafficking."

The U.S. will begin work to repatriate to Russia highly enriched uranium fuel from a research reactor in Uzbekistan. The Uzbekistan government, in turn, has pledged to convert the reactor to use low-enriched uranium. The Department of Energy's National Nuclear Security Administration will assist with this conversion and aid Uzbekistan in the safe and secure storage of its nuclear materials.

BWXT Pantex honored for work force development

The Panhandle Workforce Development Board recently presented its 2001 Employer Award of Excellence to BWXT Pantex, the management and operating contractor of the Department of Energy's Pantex Plant in Amarillo, Tex. The Board is responsible for state work force development programs in the 26 counties of the Texas Panhandle.

BWXT Pantex, chosen from among more than 1,000 Panhandle employers, was recognized for the high-quality, high-paying jobs that it provides to Panhandle workers. More than 250 technical, security, and clerical workers referred by work force centers were hired by BWXT Pantex in 2001. "We're proud to be recognized for something we take very seriously: hiring and retaining qualified people in all disciplines," said BWXT Pantex Human Resources Manager Steve Smith.

Home Depot joins DOE as Solar Decathlon cosponsor

Home Depot, the world's largest home improvement retailer, has signed on to cosponsor the Department of Energy's (DOE) first-ever Solar Decathlon, joining BP Solar, the American Institute of Architects, and the Department's National Renewable Energy Laboratory. The Solar Decathlon is a team competition among universities to design and build the most energy-efficient solar powered homes.

Home Depot will provide financial and in-kind support, including professional advice on energy-efficient materials and homebuilding techniques. The company also will set up a special learning center near the contest site to provide information and advice on energy efficiency to homeowners and homebuilders.

Solar Decathlon homes will be built, displayed, and evaluated on the National Mall in Washington, D.C., from Sept. 19 to Oct. 9, 2002. Engineering and architecture students from 14 schools nationwide have entered the contest. World-renowned architects will evaluate the attractiveness, livability, and effectiveness of each home's design. DOE and NREL experts will measure energy production and use. More information on the contest is available at **http://www.eren.doe.gov/solar_decathlon/**. ❖

United States
Department of Energy (PA-40)
Washington, DC 20585

Official Business