

Secretary's
international
trip promotes
energy security

IAEA 'dirty
bomb'
conference
raises
awareness

U.S., Russia sign
cooperative
agreements



U.S. Department of Energy



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Spencer Abraham
Secretary of Energy

Jeanne Lopatto
Director, Office of Public Affairs

Bonnie Winsett
Editor

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On our cover

Secretary of Energy Spencer Abraham began a 10-day international trip on March 5, 2003, to promote the Administration's Hydrogen Fuel Initiative, co-sponsor the IAEA International Conference on the Security of Radioactive Sources, and meet with international energy officials to promote energy security.

In the top photo, Secretary Abraham (left) and Russian Energy Minister Igor Yusufov shake hands in Moscow on March 12 following discussions and the signing of an agreement to establish a bilateral dialogue on oil spill prevention and response.

In the bottom photo, Secretary Abraham and Russian Minister of Atomic Energy Alexander Rumyantsev sign agreements earlier that day in Vienna, Austria, to facilitate the shutdown of three Russian nuclear reactors that currently produce weapons-grade plutonium and to provide U.S. support for replacement fossil energy plants. (Photo by Martin Gnedt, Vienna)

For more on Secretary Abraham's trip, see pages 3 and 4. ❖

Secretary promotes energy security, hydrogen fuel initiative on international trip

On March 5, 2003, Secretary of Energy Spencer Abraham began a 10-day international trip to promote the Administration's Hydrogen Fuel Initiative and to meet with international energy officials to discuss energy security. The trip included stops in Brussels, Belgium; London, England; Vienna, Austria; Moscow, Russia; and Budapest, Hungary.

Brussels meetings

Secretary Abraham met with the senior leadership of the European Commission (EC) on March 6. Discussions focused on the continuing cooperation between the U.S. Department of Energy (DOE) and the EC in the areas of clean energy and alternative fuels. Other topics included President Bush's Hydrogen Fuel and FreedomCAR Initiatives, the National Hydrogen Energy Roadmap, and the Carbon Sequestration Leadership Forum (*DOE This Month*, February and March 2003). In separate meetings, Secretary Abraham signed agreements with members of the European Atomic Energy Community (EURATOM) to promote and extend cooperative nuclear-related technology research and development.

"The U.S. and the European Commission face common challenges, including growing energy and oil import dependence, and massive new energy infrastructure requirements," Secretary Abraham said. "Our shared interests make us partners in the effort to devise innovative ways to improve the energy security in our respective countries."

Secretary Abraham and EC President Romano Prodi welcomed progress on a Fuel Cell Annex to the U.S.-European Union Non-Nuclear Energy Cooperation Agreement and agreed to its signing and implementation in the near future. The Annex is the first addition to the Agreement for Science and Technology Cooperation between DOE and the EC. It provides for the legal and contractual framework

to begin collaborations with various EC research institutions.

"This Annex is a key step to moving our joint agenda forward to expand the use of hydrogen as an alternative fuel source," Secretary Abraham said. "The increased use of hydrogen is critical to coordinating our mutual cooperation in the fields of clean energy, fuel cell research, and developing hydrogen as an alternative fuel."

While in Brussels, Secretary Abraham met with Claude Mandil, Executive Director of the International Energy Agency (IEA) on the state of the world oil market, ongoing preparedness to address any possible severe supply disruption, and the long-term potential for hydrogen energy. It was agreed that Secretary Abraham will brief delegates at the April 28-29 IEA Ministerial Meeting on the role, potential, and benefits of hydrogen as an energy carrier.

London, Vienna

On March 10, Secretary Abraham and the Right Honorable Patricia Hewitt, United Kingdom (U.K.) Secretary of State for Trade and Industry, signed a Memorandum of Understanding (MOU) between the U.S. Department of Energy and the U.K. Department of Trade and Industry. The 10-year MOU covers the expansion of international trade and cooperation in several broad areas of energy research and development, including clean coal technology, fuel diversity, environmental protection, energy security, advancements in renewable energy, waste-related management and the environment, and energy end-use technologies and techniques.

While in London, Secretary Abraham also met with oil and automobile executives to promote the Administration's Hydrogen Fuel Initiative, FreedomCAR program, and technologies for hydrogen-powered fuel cell vehicles.

Secretary Abraham, Russian Minister of Atomic Energy Alexander Rumyantsev, and International Atomic Energy Agency (IAEA) Director General Mohamed El Baradei co-hosted the IAEA International Conference on the Security of Radioactive Sources, March 11-13. Also, while in Vienna, Secretary Abraham and Minister Rumyantsev signed an agreement to proceed with the replacement of three Russian plutonium reactors with fossil fuel energy production facilities. (See related articles, page 4.)

Secretary Abraham also met privately with Saudi Arabian Oil Minister Ali Naimi, who was in Vienna for a meeting of the Organization of Petroleum Exporting Countries (OPEC). OPEC decided to maintain its oil production target of 24.5 million barrels a day, and Minister Naimi sought to assure the Secretary that OPEC would be able to cover any shortfalls in the market caused by the war in Iraq. Secretary Abraham called OPEC's decision "very positive."

Moscow, Budapest

In Moscow, on March 12, Secretary Abraham held discussions with Russian Energy Minister Igor Yusufov and announced a new U.S./Russia program. The U.S. Department of Energy and the Russian Ministry of Energy have agreed to establish a bilateral dialogue on oil spill prevention and response.

Secretary Abraham's final stop was Budapest, where he spoke to the American Chamber of Commerce. On behalf of the United States Trade and Development Agency (USTDA), Secretary Abraham signed a \$138,000 grant to Greenergy Kft. of Hungary to partially fund a feasibility study on a wind farm project. The grant reflects USTDA's efforts to help Hungary develop renewable energy resources.

Additional information on the Secretary's trip can be found in press releases and speeches at

<http://www.energy.gov/PromotingEnergySecurity.html>. ❖

IAEA conference addresses 'dirty bombs'

More than 600 experts from over 100 countries gathered in Vienna, Austria, March 11-13, 2003, for the International Atomic Energy Agency (IAEA) Conference on the Security of Radioactive Sources. The conference was co-hosted by U.S. Secretary of Energy Spencer Abraham, Russian Minister of Atomic Energy Alexander Rumyantsev, and IAEA Director General Mohamed El Baradei.

The conference was held to raise international awareness about the dangers of radiological dispersal devices (RDD), or "dirty bombs"; seek a new level of international cooperation on RDD issues; and encourage nations to better identify, account for, and secure RDD-related material. "I have said on many occasions—before the IAEA and elsewhere—that taking measures to control dangerous and vulnerable radioactive sources is not just the responsibility

of a few nations, but all nations," Secretary Abraham told conference attendees.

Secretary Abraham announced a new initiative—the Radiological Security Partnership—that he hopes will become international in scale. The United States is committed to the partnership and plans to contribute \$3 million over the next year to support its efforts. The partnership involves a three-prong approach.

The first prong is helping countries accelerate and expand national initiatives to keep track of and better secure their inventories of high-risk radioactive sources. This includes a new program to provide well over \$1 million in technical assistance and equipment to IAEA Member States.

Second, countries need to draw on international resources that can give practical advice and assistance

in bringing these sources under control. The United States is working with Russia and the IAEA to identify and secure high-risk radioactive sources in the former Soviet Union. This "Tripartite" model will be expanded to other countries in need of assistance.

As the third prong, Secretary Abraham plans to expand a recently initiated DOE project to improve the detection of nuclear materials or weapons en route to the United States. Now, the project also will focus on other major transit and shipping hubs. The Department also will participate with the IAEA to set technical specifications for border monitoring equipment.

The complete text of Secretary Abraham's remarks is available at <http://www.energy.gov/HQDocs/speeches/2003/marss/IAEAConference.html>. ❖

U.S., Russia sign cooperative agreements

On March 12, 2003, in Vienna, Austria, Secretary of Energy Spencer Abraham and Russian Minister of Atomic Energy Alexander Rumyantsev signed agreements that will facilitate the shutdown of three Russian nuclear reactors that currently produce weapons-grade plutonium. Under the agreements, the United States will provide support to the Russian Federation for replacement fossil energy plants.

The reactors, which are the last three in Russia that produce plutonium for military purposes, also provide necessary heat and electricity to the "closed cities" of Seversk and Zheleznogorsk in Siberia. The three reactors will continue to operate until the fossil energy plants are completed and begin operations.

"This is an important step in advancing the nonproliferation programs between the United States and Russia," Secretary Abraham said. "Replacing these reactors with fossil fuel energy is critical in eliminating

the production of weapons-grade plutonium in Russia and closing these facilities."

The Implementing Agreement details the rights and responsibilities of each country regarding U.S. assistance for the construction and refurbishment of the fossil fuel plants. In Seversk, an existing fossil fuel plant will be modernized. In Zheleznogorsk, a new facility will be constructed. The Russian Federation will be responsible for shutdown and decommissioning of the three existing nuclear reactors.

The new agreement will help implement the Elimination of Weapons-Grade Plutonium Production Program, which is a cooperative effort between the U.S. Department of Energy (DOE) and the Russian Ministry of Atomic Energy. The three nuclear reactors have approximately 15 years of remaining life and, as a group, could generate an additional 25 metric tons of plutonium.

Later that day in Moscow, Russia, Secretary Abraham and Russian Energy Minister Igor Yusufov announced an agreement between the U.S. Department of Energy and the Russian Ministry of Energy to establish a bilateral dialogue on oil spill prevention and response. A subgroup will be formed under the U.S.-Russia Energy Working Group.

The Russian Federation has developed oil spill contingency plans for each of its regions, and the United States also has developed response plans. Under the agreement, DOE and the Russian Ministry will share ideas, information, and the latest technologies, and identify opportunities for joint activities to support the goal of helping both countries increase the effectiveness of oil spill regulation and response. Text of the statement of intent is available at <http://www.energy.gov/HQDocs/speeches/2003/marss/Moscow.html>. ❖

Oak Ridge Lab celebrates 60th anniversary

The Department of Energy's Oak Ridge National Laboratory (ORNL) recently celebrated its 60th anniversary. Several events and activities are helping to mark this significant milestone.

Approximately 200 people attended an anniversary program on Feb. 6, 2003, at the Graphite Reactor, the world's first continuously operated nuclear reactor. Many of those in attendance dressed in 1940's era clothing. Twelve original ORNL employees who worked at the facility in 1943 were on hand for the event.

ORNL Director Bill Madia, who dressed as nuclear pioneer Enrico Fermi for the occasion, noted the laboratory's celebration was designed with three goals. "We are making sure future generations know about the tremendous contributions of those who worked here before us," he said. "We are thanking the community for their help and support over the years. And we are recognizing the wonderful staff, past and present, who have made ORNL a world leader in scientific research."

Construction began at ORNL, then called Clinton Laboratories, in February 1943. Work centered on building the Graphite Reactor, which began

operation in November 1943 and demonstrated that a reactor could provide a sustained nuclear reaction and produce significant amounts of plutonium. Approximately 20 months later, plutonium produced in Hanford, Wash., was used in one of the atomic bombs that accelerated the end of World War II.

In its early years, ORNL's mission was weapons research. Today, the laboratory's mission includes world-class research in energy, neutron science, biological systems, advanced materials, national security, and high-performance computing.

Several activities are in progress or completed to chronicle ORNL's history. Laboratory retirees are being interviewed on camera to develop an oral history of ORNL's first two decades. An ORNL history room has been established for



Gerald Boyd, Oak Ridge Operations Office Manager (left), dressed in 1940's attire as General Leslie Groves, is joined by Bill Wilcox (center) and John Gillette, Oak Ridge National Laboratory (ORNL) retirees and charter members of the 1943 Club, at ORNL's 60th anniversary program.

identifying, preserving, and displaying artifacts related to the science and life of early staff members. The Graphite Reactor exhibit wing has been renovated and upgraded by ORNL to display both the history and future of the laboratory's scientific agenda. A special edition of the laboratory publication *ORNL Review* describes scientific discoveries over the past 60 years that have improved people's lives. ❖

Fuel cell power plant a DOE-industry success

FuelCell Energy Inc., one of the Department of Energy's (DOE) longstanding research partners, has successfully installed a hydrogen-powered fuel cell power plant in downtown Los Angeles, Calif. The fuel cell went online in February 2003 and is now sending 250 kilowatts of clean electricity—enough to serve about 250 homes—to the city's power grid.

"The Los Angeles fuel cell is the culmination of one of our most productive technology partnerships, a joint development effort between the Energy Department and FuelCell Energy that spans more than a quarter century," Secretary of Energy Spencer Abraham said. "Now,

because of this partnership, the citizens of Los Angeles are seeing a preview of our energy future—clean, efficient power generated from hydrogen by innovative technology."

DOE's Office of Fossil Energy issued its first research contract to FuelCell Energy in 1976, six years after the Danbury, Conn., firm was founded under its original name of Energy Research Corporation. Over the 27-year development program, the Federal Government invested more than \$200 million in the advanced energy technology.

FuelCell Energy's power plant creates hydrogen from natural gas inside the fuel cell, then combines the hydrogen with oxygen in a battery-like

electrochemical reaction to generate electricity. The technology evolved from the first experimental laboratory test unit, which generated one watt, to today's 250,000-watt system. Fuel Cell Energy is now offering the Direct FuelCell Power Plant® or DFC300A® for commercial sale.

The California Energy Commission certified the DFC300A for grid interconnection under the state's "Rule 21" standard. Rule 21 specifies standard requirements for "distributed" power generators, that is, power generators located at points along the grid close to where the power is consumed. The DFC300A is the largest fuel cell power plant to receive this certification. ❖

LLNL attains environmental cleanup milestone

In March 2003, the Environmental Restoration Division at the Department of Energy's Lawrence Livermore National Laboratory (LLNL) reached a major milestone in environmental cleanup. Two billion gallons of contaminated ground water have been successfully treated at the Livermore Site after more than 12 years of pump-and-treat operations.

The ground water contamination began with activities associated with the Livermore Naval Air Station, the previous occupant of the site during the 1940's. Volatile organic compounds routinely were used in aircraft and engine assembly and repair and in paint stripping. Also, over the years, fuels, solvents, and other materials were stored and disposed of on the site.

In 1983, contaminated ground water was discovered on- and off-site. The U.S. Environmental Protection Agency designated the area as a Superfund site in 1987 and added the site to its National Priorities List. Ground water treatment began in late 1989 with one fixed pilot facility treating about 50 gallons per minute. Since then, LLNL has constructed 33 treatment facilities consisting of 30

fixed, portable, or solar ground water treatment units and three vapor extraction units. Typically, about 30 units are in operation 24 hours per day, treating about 20 million gallons of contaminated ground water per month.

The treatment is accomplished through a concept called Engineered Plume Collapse (EPC). EPC incorporates an understanding of the ground water flow and transport through computer modeling, hydrostratigraphic unit analysis, improved

pump-and-treat efficiencies, and by using a combination of contaminant source reduction and distal plume control. The versatility of portable air strippers and aqueous phase carbon, solar, and vapor extraction treatment units allows LLNL to quickly respond to changing plume dynamics.

When the ground water contaminants were first discovered, the contamination had spread down



Acknowledging the cleanup milestone are (l-r) Albert Lamarre, LLNL; Phil Wong, DOE Oakland Operations; Roy Kearns, DOE Oakland; Judy Steenhoven, LLNL; and Robert Bainer, LLNL.

gradient, approximately one half mile off-site to the west toward the City of Livermore's municipal water supply wells. Today, the western plumes have been pulled back nearly to the site boundary and the contaminant levels have been significantly reduced.

For more information on the LLNL ground water cleanup, contact Robert Bainer, LLNL, 925-422-4635, or bainer1@llnl.gov. ❖

Argonne building achieves 'green' rating

The Central Supply Facility (CSF) at the Department of Energy's (DOE) Argonne National Laboratory (ANL) has earned a "Silver" rating under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) standard. The facility is recognized as the first Federally owned building to achieve this rating.

LEED is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. The standard was developed by Council members representing all segments of the building industry.

Ordinary from the outside, the 19,000-square-foot CSF was designed using an integrated environmental, energy, cost and functional, whole-

building perspective. Energy efficiency, water conservation, construction waste recycling, reduced site disturbance, and the use of low-emitting and recycled content building materials are among the environmental factors incorporated in the "green" building. The LEED standard was used as a benchmark to generate and compare sustainable design options and proposals. The DOE-2 building simulation software tool was used to model and optimize the energy performance and to make informed design decisions about possible energy efficiency strategies.

The sustainable design principles have directly impacted building operations. Collectively, the energy-efficiency measures reduced building

electric energy consumption by 20 percent and natural gas use by 30 percent. This equates to a reduction of 80,000 kWh/year in electrical consumption and 3,000 therms/year in natural gas, resulting in a direct reduction of greenhouse gas emissions by 55 tons/year. Water consumption has been reduced in excess of 50 percent.

The CSF project is an invaluable case study, not only to ANL but also to other DOE projects. In fact, ANL already has integrated sustainable design principles into its policy and procedures and applied the case study toward designing and building its future facilities. For more information, contact Karen Hellman, 630-252-7808, or George Paliulionis, 630-252-2724. ❖

Hanford 'cocooning' project: an update

"If people want to see visible cleanup progress at Hanford, the first place they should go is to one of the old reactor sites," Representative Doc Hastings (R-Wash.) said at a November 2002 ceremony marking completion of cocooning of DR Reactor at the Department of Energy's (DOE) Hanford Site. Work on DR Reactor, the second of Hanford's nine plutonium reactors to be cocooned, was completed in September 2002, nearly a year ahead of schedule.

The Interim Safe Storage project, commonly referred to as "cocooning," was conceived to give the highly radioactive reactor cores time to decay to relatively manageable levels. The cocooning process involves removing all reactor buildings and support structures except for the five-foot-thick concrete shield walls surrounding the reactor core. All doors and other openings in the remaining structure are sealed, and a new roof is placed over the remaining structure. One or more doors are left intact, but welded shut. Sensors



Placing a 75-year roof over the remaining portions of DR Reactor was the last step in the cocooning process.

remotely monitor temperature and moisture in the building. Once every five years, the door is unsealed to allow visual inspection of the interior.

The safe storage phase could last up to 75 years. Sometime during that period, DOE and the regulators will decide when to implement the disposal part of the effort. The Record of Decision calls for transporting the graphite reactor cores to Hanford's central plateau on giant crawlers similar to those used to transport the space shuttle to the launch pad. The

cores, 40-foot cubes that weigh between 11,000 and 16,000 tons, would be buried in a common trench under an engineered barrier.

Cocooning of C Reactor was completed in 1998; DR, in September 2002. Demolition of the fuel storage basin at F Reactor is nearly complete; work on the roof is scheduled to begin and be completed this fiscal year. All demolition work at D Reactor is complete and a contractor

will be selected to do the roof this fiscal year with work to be done in Fiscal Year 2004. Work on H Reactor is about 40 percent complete and is scheduled to be done in Fiscal Year 2005.

Work on the K Reactors will begin sometime after fuel is removed from the storage basins and is scheduled for completion in 2011. N Reactor is scheduled to be completed in 2012. B Reactor is being considered as a museum and work is not scheduled at this time. ❖

INEEL noted for procurement achievements

A series of innovative supply chain improvements helped the Department of Energy's (DOE) Idaho National Engineering and Environmental Laboratory (INEEL) save money, reduce or avoid costs, and earn a DOE Procurement Executive Award.

The award is given to Department offices or prime contractors to recognize overall acquisition excellence in the DOE contracting community. INEEL contractor Bechtel BWXT Idaho was recognized for implementing tools and processes that reduced costs, greatly improved customer

satisfaction, and avoided costs estimated at \$5 million annually through Six Sigma process improvement projects.

"This award recognizes excellent performance in our supply chain system that was the result of many individuals, teams and departments working together to improve ways we do business," said Scott Harrison, INEEL Director of Supply Chain Management and Contracts. Harrison noted that key output measures over the last two years have shown significant improvement. Procurement cycle time, the cost to place a

procurement, and warehouse inventory levels have all been reduced while at the same time supplier on-time delivery, internal customer satisfaction, small business utilization, and procurements under budget have all increased.

Six Sigma played an important part in improving processes. Six Sigma, an internationally used business improvement process, applies the science of statistics to business analysis. The process improvements and resulting cost reductions helped INEEL save or avoid about \$40 million in just 18 months. ❖

BNL holds 'Career Day' for local high school girls



Local high school girls spent a day in early February at the Department of Energy's Brookhaven National Laboratory (BNL) in New York learning about careers in various scientific and technical fields. The students attended Amityville High School, Center Moriches High School, Walter G. O'Connell High School in Copiague, and William Floyd High School in Shirley.

"Career Day," coordinated by Brookhaven Women in Science, featured presentations by women in the fields of physics, chemistry, materials science, engineering, and science writing. The students also toured BNL's magnet factory, where huge superconducting magnets are made for use in accelerators worldwide, and visited the Scanning Transmission Electron Microscope, which is used by scientists around the world to image biological specimens.

In the photograph, mechanical engineer Patricia Williams (second from right), BNL's Facilities and Operations Manager of Environment, Safety, Health, Training and Quality, shows students (l-r) Biana Spizzirri, Nicole Meyer, and Tiffany Eng how a respirator works. ❖

Office of Science discusses ethics with local students



On March 12, 2003, staff of the Department of Energy's Office of Science (SC), led by Director Dr. Raymond Orbach, participated in "Ethics in the Workplace Week," an annual program sponsored by Seneca Valley High School (SVHS), the office's adopted partner school in Germantown, Md. "Ethics Week" is part of the Signature Program within the school's Center for the Study of Law, Science and Ethics.

Dr. Orbach addressed 200 science students about the excitement of being a scientist, preparing for science careers, and ethical issues facing scientists, and answered student questions on topics ranging from physics to philosophy. SC staff scientists discussed physics, health physics and radiological protection, minorities in science and engineering, ethics principles, and environmental responsibility.

In the photo, l-r, are Diane Wilder, SVHS teacher and intern coordinator; Harold Jaffe, SC physicist; Charles Dormo, SVHS Signature Program; David Allen, SVHS Assistant Principal; Clarence Hickey, SC Adopt-a-School Coordinator; Barry Parks, SC health physicist; Sheila MacLeod, SVHS Signature Program; and Dr. Orbach. ❖

West Valley completes work in high-level waste tanks



On Feb. 7, 2003, the Department of Energy's West Valley Demonstration Project (WVDP) in New York completed processing liquid waste from its High-Level Waste Tank Farm. This accomplishment signals the end of Tank Farm waste processing at WVDP. In the next phase of operations—high-level waste tank lay-up—all the piping connections from the tanks will be isolated from adjoining systems.

West Valley Nuclear Services Company (WVNSCO), the site's prime contractor, treated the final tank contents—sodium-bearing wastewater—to remove cesium-137, then evaporated and concentrated the material. The concentrated liquid was transferred to an aboveground holding tank for stabilization and removal from WVDP next year. At left, WVNSCO President Jim Little (front, center) congratulates West Valley employees on completing the task.

Long-term alternatives for tank closure will be addressed in an Environmental Impact Statement (EIS). A Notice of Intent was published in the *Federal Register* in March 2003 announcing revision of the draft EIS. ❖

Savannah River team aids in Shuttle debris search

Answering the call for assistance, the Savannah River Technology Center (SRTC) at the Department of Energy's Savannah River Site dispatched a three-person team to Hemphill, Texas, to help in the underwater search for debris from the Space Shuttle Columbia. The technical experts are part of the Law Enforcement Technology Support Center program at the Site's applied research and development laboratory.

Less than 24 hours after receiving orders to depart, the team arrived at Toledo Bend Reservoir on Feb. 7, 2003, with 800 pounds of technical underwater search instrumentation. The team used three remotely operated submersible vehicles to record and transmit real-time video to searchers on the surface of the reservoir. The search of the 188,000-acre lake was conducted in high-interest target areas suspected of containing pieces of the Shuttle.

At right, David Martinez of SRTC's Electro-Mechanical Support Group packs up a submersible used in the search. ❖



Crash absorption machine on the job at ORNL

A one-of-a-kind machine integrating virtual and physical testing is in operation at the National Transportation Research Center, Knoxville, Tenn. The center is a user facility of the Department of Energy's Oak Ridge National Laboratory (ORNL).

The Intermediate Strain Rate Machine (ISRM) enables engineers working with the automotive industry to provide more accurate performance data to improve the crash simulations used in the design process. The ISRM can also assist the military and the National Aeronautics and Space Administration with their structural material testing needs. At right, ORNL engineer Mike Starbuck stands in front of the machine with an aluminum specimen for testing.

Currently, the machine is being used to research the crash energy absorption capabilities of advanced lightweight automotive structures. Controlled impact experiments can be conducted from extremely slow rates of static through rates up to 18 miles per hour for structural components exhibiting sustained crush forces up to more than 60,000 pounds. ❖



KC Plant celebrates National Manufacturing Week

The Department of Energy's Kansas City Plant, a National Nuclear Security Administration facility, put its diverse and unique technologies on display March 3-7, 2003, in celebration of National Manufacturing Week. Trade-show booths helped employees learn about some of the technologies developed at the Plant and Kirtland Operations.

"Sometimes it's difficult to know what other departments might be working on," said Mark Smith, senior staff engineer. "By doing things like this, maybe we can find ways to work together a little more effectively."

Technologies on display included science-based manufacturing, electromechanical mechanisms, microelectronics, plasma processing, the flexible manufacturing system, and the Open Architecture/Machine Modernizations team. The Office of Business Development had its traveling booth available to show how new business and reimbursable work are attracted to the Plant. At right, a Kansas City Plant engineer explains a few of the features associated with the science-based manufacturing capabilities. ❖



Research DIGEST

Researchers at the Department of Energy's **Argonne National Laboratory** have developed a new technology that may make the flexible forms of stem cells needed for medical research and treatment as close as your own bloodstream and eventually offer researchers a practical alternative to the use of embryonic stem cells. Flexible stem cells, able to morph into a variety of cell types, are called "pluripotent." The Argonne-developed technology can produce them from adult blood cells. Argonne scientist Eliezer Huberman and his colleagues Yong Zhao and David Glesne examined adult monocytes, a type of white blood cells that act as precursors to macrophages. They found that when the monocytes were exposed to a growth hormone, they created a set of pluripotent stem cells. After cultivating the stem cells, the scientists were able to make the cells differentiate into nerve, liver, and immune system tissue by delivering more growth factors. The research is being published in the Proceedings of the National Academy of Sciences. (Catherine Foster, 630-252-5580)



The energy savings of a new energy-efficient hotel bathroom lighting control system installed at a DoubleTree Hotel in Sacramento, Calif., are being studied by researchers at the Department of Energy's **Lawrence Berkeley National Laboratory** (LBNL). The system was installed under an agreement among LBNL, the Sacramento Municipal Utility District (SMUD), DoubleTree Hotels, and The Watt Stopper, Inc. The lighting control system was based on research performed by LBNL scientists on improving hotel room energy efficiency in collaboration with product development engineers at Watt Stopper. The hotel lighting research was funded by DOE's Office of Building Technologies. The technology demonstration calls for "relighting" of

the entire Sacramento hotel, which has more than 400 guest rooms. Watt Stopper is manufacturing the units, and SMUD and DoubleTree are sharing the demonstration's costs. More information is available at <http://lighting.lbl.gov/projects/hotel/Hotel.htm>. (Allan Chen, 510-486-4210)



A new class of composite anode materials composed of silicon and graphite has been developed by researchers at the Department of Energy's **Sandia National Laboratories**. The new materials may double the energy storage capacities currently possessed by graphite anodes and could lead to rechargeable lithium-ion batteries with more power, longer life, and smaller sizes. Researchers have, for years, been vexed by the capacity limits associated with traditional lithium battery anodes, says Jim Wang, Sandia Analytical Materials Science Manager. Sandia turned to silicon, which offers more than 10 times the lithium capacity potential of graphite, but is hampered itself by a rapid capacity loss during the battery cycling phase. When small particles of silicon are combined within a graphite matrix, however, the large capacities are retained. The discovery could have wide-ranging impact on both consumer and national defense applications. Sandia is seeking partners to further develop the technology for licensing and commercialization. (Mike Janes, 925-294-2447)



The addition of a state-of-the-art \$2.4 million combination Transmission/Scanning Transmission Electron Microscope is facilitating Electron Microscopy studies at the Department of Energy's **Los Alamos National Laboratory** (LANL). Part of a fleet of five electron microscopes at LANL,

the FEI Tecnai F30 TEM/STEM allows researchers to "see" to very nearly atomic scale. In TEM high-resolution mode, the Technai can image 0.21 nanometers (2.1 Angstroms) "point-to-point" with directly interpretable resolution. The instrument has an "information limit" or line resolution of 0.14 nanometers in this mode. In STEM mode, where the beam is focused to a fine probe, information, including chemistry, can be obtained with a resolution of 0.35 nanometers. Active research projects in progress at LANL include investigating core-and-rim structures in uranium carbides, microstructures of multilayer superconducting tapes, and deposition and deformation microstructures in nano-layered composite materials. (Sandra Embry, 505-667-7000) ❖



Under Secretary for Energy, Science and Environment Robert Card and several senior Department of Energy staff members recently visited the Department's Thomas Jefferson National Accelerator Facility in Newport News, Va. This was Under Secretary Card's first visit to Jefferson Lab. The Under Secretary received briefings about ongoing research and toured Jefferson Lab's experimental halls. Here, Under Secretary Card (left) talks with Jefferson Lab Director Christoph Leemann (center) during a tour of the Continuous Electron Beam Accelerator Facility. Andrew Hutton (right), Jefferson Lab Accelerator Division Director of Operations, leads the group.

DOE instrumental in interagency 'science.gov'

"Science.gov," <http://www.science.gov>, was launched Dec. 5, 2002, as the FirstGov portal for science information. The web site was officially presented to the scientific community at the annual meeting of the American Association for the Advancement of Science (AAAS) in February 2003, in Denver, Colo. Dr. Peter Raven, Chairman of the Board of Directors of the AAAS, joined the science.gov Alliance in the Feb. 15 roll-out demonstration.

Science magazine reports in its Dec. 20, 2002, issue that science.gov "...makes it easier to round up scientific information that is strewn across the U.S. Government's numerous web sites...." Dr. John H. Marburger, Director, Office of Science and Technology Policy, notes, "The site is a great example of e-government in action."

The Department of Energy (DOE) was a key force in creating this interagency resource. The Department's Office of Scientific

and Technical Information (OSTI), part of the Office of Science, organized and hosted a workshop in May 2000 at the National Academy of Sciences to obtain scientific community input on a vision for a comprehensive science portal on the Web. Chaired by Dr. Alvin W. Trivelpiece, former Director of DOE's Oak Ridge National Laboratory, the workshop endorsed the concept and recommended an interagency approach.

DOE co-hosted a second workshop in 2001 at the National Institute for Science and Technology. This workshop led to the formation of the science.gov Alliance, a partnership of 14 organizations from 10 major science agencies committed to developing the definitive government resource for science information. In addition to DOE/OSTI, other participating organizations and agencies include the U.S. Geological Survey, Department of the Interior; National Technical Information Service, Department of Commerce; National

Library of Medicine, Department of Health and Human Services; the Departments of Agriculture, Defense, and Education; the Environmental Protection Agency; the National Aeronautics and Space Administration; and the National Science Foundation.

OSTI maintains the science.gov web site, makes more than 400 DOE information collections accessible through the site, and developed a distributed Deep Web search capability for science.gov. This capability allows users to search multiple databases with a single query, regardless of which agency hosts them or how the data is stored.

Additional information on science.gov is available at <http://www.science.gov/communications/> or by contacting Dr. Walter Warnick, Director, OSTI, 865-575-1189 or 301-903-7996, or WarnickW@osti.gov. The URL address for OSTI is <http://www.osti.gov>. ❖

COMING Events

May

12-14 2003 DOE/Contractor EEO and Diversity Training Seminar, Albuquerque, N. Mex. Hosted by the Department of Energy (DOE), the National Nuclear Security Administration (NNSA) Service Center, Los Alamos National Laboratory, and Sandia National Laboratories. The seminar will provide valuable learning tools and resources needed to create a positive work environment for all employees and to promote respect and accountability throughout the DOE complex. Registration is free but space is limited. For more information, visit <http://www.smallbusiness-outreach.doe.gov/diversity/index.html>.

12-15 4th Annual National Small Business Conference, Albuquerque, N. Mex. Sponsored by the Office of Small and Disadvantaged Business Utilization in the Department of Energy's (DOE) Office of Economic Impact and Diversity. The goal of the conference is to reach out to small businesses and to assist them in contracting with DOE. The annual conference will bring together DOE technical and procurement officials, prime contractors, representatives from several Federal agencies, and small business exhibitors. The deadline for registration is **May 5, 2003**. To register and for more information, visit <http://www.smallbusiness-outreach.doe.gov>.

September

11-14 NATO Science Program, Advanced Research Workshop, Radiation Safety Problems in the Caspian Region, Baku Azerbaijan. Workshop topics include radiation environmental monitoring, natural and artificial sources of radioactivity in the Caspian Region, radiotherapy and radiodiagnostics, radiation safety problems in the oil industry, and new methods and techniques of dosimetry of ionizing radiation. Contact Mohammed K. Zaidi, Physicist; Co-Director, NATO ARW AZ 2003; DOE Radiological and Environmental Sciences Laboratory; 850 Energy Drive, MS-4149; Idaho Falls, Idaho 83401-1563; phone, 208-526-2132; fax, 208-526-2548. ❖

Education NOTES

The Department of Energy's (DOE) **Office of Environmental Management** is expanding its work with the Historically Black Colleges and Universities/Minority Institutions (HBCU/MI) Environmental Technology Consortium by providing \$3 million over three years for advanced environmental research, education, and technology transfer programs. The agreement continues the activities of the consortium of 17 HBCU's and minority institutions that was established in 1990. DOE's support will be combined with technical assistance from Howard University's Departments of Engineering, Architecture, and Computer Science. The National Association for Equal Opportunity in Higher Education will coordinate the Consortium's technology transfer activities and establish a quality assurance program to ensure overall success of the partnership.



In celebration of Excellence in Science, Technology, and Mathematics Education Week, March 16-22, 2003, the Department of Energy's **Office of Science** and its Workforce Development for Teachers and Scientists program hosted a series of "Science Safaris" in Washington, D.C.

Nine top science teachers from across the country working in the Nation's Capital as Albert Einstein Fellows presented the "safaris" and brought tabletop science experiments to Capitol Hill, the Library of Congress, and the Capital Children's Museum. Participants in the demonstrations "traveled" from station to station where they experimented with flotation and density, made hovercrafts using CD's and balloons, and used sonic range finders to try to walk lines graphed in time and space. The interactive activities ranged from elementary to high school age.



Nineteen Tennessee Wesleyan College student nurses are learning from health care professionals on the job at the Department of Energy's **Oak Ridge National Laboratory** (ORNL). The students accompany the professionals on rounds in ORNL's Health Division and get to see a variety of duties carried out by ORNL's medical staff members. "They get to see up close the clinical aspect of nursing," said Sherrian McNeese, the ORNL nurse overseeing the program. Kelly Beierschmitt, ORNL Director of Environment, Safety, Health and Quality, said the

program is beneficial to the laboratory and to the student nurses. "The field of occupational medicine needs a pipeline of qualified professionals," she said. "We value working with health care student training programs, and we look forward to more of this type of training in the future."



The Department of Energy (DOE) **2003 National Middle School Science Bowl**® will be held June 25-28, 2003, at the Colorado School of Mines, Golden, Colo. The tournament host is the Department's National Renewable Energy Laboratory. Sixteen middle school winning teams from selected regional competitions will compete in the National Middle School Science Bowl. At the national level, these teams will face each other in an academic question and answer contest and a model solar car race. First, second, and third place winners of the academic science and math competition and of the model solar car race will receive trophies. All students participating in the nationals will receive a medallion and certificate. This is the second year for the National Middle School Science Bowl. For more details, visit <http://www.scied.science.doe.gov>. ❖



The team from Great Neck South High School in New York won the Regional Science Bowl at the Department of Energy's (DOE) Brookhaven National Laboratory (BNL) on Feb. 1, 2003. BNL Interim Laboratory Director Peter Paul (far left) presented the first-place prize to (l-r) team members Zachary Wissner-Gross, Jared Bass, Kenny Schultz, Zachary Scherr, and Sharon Chou and coach Matthew Sckalor. As champs, the Great Neck South team received \$500 to be shared among the five team members, gold medals for each team member, and an inscribed silver bowl for display at the school. Great Neck South also won the chance to face 65 other student teams from across the country at DOE's 13th Annual National Science Bowl®, May 1-5, 2003, at the National 4-H Center, Chevy Chase, Md. More information on the national competition is available at <http://www.scied.science.doe.gov>. ❖

Savannah River encourages future engineers

Engineers and technical professionals at the Department of Energy's Savannah River Site went out in force recently with one mission—to encourage middle school students to consider careers in science, engineering, and technology. Several events were organized in celebration of National Engineers Week, Feb. 16-22, 2003.

About 2,700 middle school students and teachers from Georgia and South Carolina attended Technology Days 2003 at the National Science Center's Fort Discovery in Augusta, Ga. Interactive exhibits from the Savannah River Site, local industry, and Fort Discovery provided the students a hands-on approach to learning about technology. Speakers provided information on environmental technologies, robotics, weather technology, gamma knife brain surgery, prosthetics, tagging and tracking wild animals, and "How Stuff Works."

A second daylong event, "Introduce a Girl to Engineering," was held at the University of South Carolina Aiken's Ruth Patrick Science Education Center. Approximately 36 girls from middle schools in the Central Savannah River Area had a chance to interact with Savannah River Site professionals, whose goal was to teach them more about engineering careers.



Hands-on activities were part of Savannah River's "Introduce a Girl to Engineering" daylong event.

Active and retired Savannah River scientists and engineers conducted "teach-ins" at local middle schools in 11 counties in South Carolina and Georgia. By participating in supervised experiments and hands-on demonstrations, the students were given a taste of what it feels like to solve engineering challenges.

Through these three outreach efforts, Savannah River Site engineers reached over 25,700 middle school students in Georgia and South Carolina. All events were designed to continue to take small steps toward easing the approaching shortage of workers skilled in the engineering disciplines. ❖

NEW Publications

Office of Inspector General (IG) reports: **Information System Development Practices at the Bonneville and Western Area Power Administrations** (DOE/IG-0586); **Inspection of Firearms Internal Controls at Los Alamos National Laboratory** (DOE/IG-0587); **Treatment of Mixed Incinerable Waste** (DOE/IG-0588); **Transfer of Excess Personal Property from the Nevada Test Site to the Community Reuse Organization** (DOE/IG-0589); **Refurbishment of the W80-**

Weapon Type (DOE/IG-0590); **Office of Inspector General FY 2002 Annual Performance Report and FY 2003 Annual Performance Plan** (DOE/IG-APP-005). 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/>.

Assessing the Potential for Renewable Energy on Public Lands (NREL/TP-710-33530), a joint report of the Department of Energy's National Renewable Energy Laboratory and the Department of the

Interior's Bureau of Land Management (BLM), identifies and evaluates renewable energy resources on BLM, Tribal and Forest Service lands in the western United States. Sources of renewable energy addressed in the report include wind, solar (photovoltaic and concentrating), biomass, and geothermal energy. The report is available on the Internet at <http://www.nrel.gov/docs/fy03osti/33530.pdf> or by writing to Bureau of Land Management, Denver Federal Center, P.O. Box 25047, Denver, CO 80225-0047. ❖

People IN/ENERGY

Prabhakar Singh, Fuel Cell Development Director at the Department of Energy's Pacific Northwest National Laboratory (PNNL), has been named a Fellow of the American Ceramic Society. Elevation to the status of Fellow is one of the highest honors for Society members. Singh, who has over 25 years of experience with advanced fuel cell technologies, has been with PNNL since 2000. He holds a Ph.D. in Metallurgy from the University of Sheffield, United Kingdom.



Eric W. Abelquist, Director of the Radiological Safety, Assessments, and Training Program at the Department of Energy's Oak Ridge Institute for Science and Education, has been elected to the Board of Directors of the National Health Physics Society. Abelquist, one of nine board members, will begin his three-year term in July 2003.

Two scientists at the Department of Energy's Lawrence Livermore National Laboratory (LLNL) in California have been inducted into the Alameda County Women's Hall of Fame. **Claire Max**, an astrophysicist with LLNL's Institute of Geophysics and Planetary Physics, and **Ellen Raber**, head of LLNL's Environmental Protection Department, were recognized for their contributions in the fields of science and environment, respectively.

Kelly Caccetta has been promoted to Associate Director at the Department of Energy's Thomas Jefferson National Accelerator Facility. In her new position, Caccetta will head Jefferson Lab's Administration Division. Previously, she was Director of Human Resources and Services. Caccetta succeeds **Dr. Roy**



Whitney, who was named the laboratory's Chief Information Officer (CIO). Whitney is the first person to hold the CIO position, which was created as part of a reorganization at Jefferson Lab.

Joe J. Tiee, a research scientist/engineer in the Physical Chemistry and Applied Spectroscopy Group at the Department of Energy's Los Alamos National Laboratory (LANL), has been named 2003 Asian American Engineer of the Year by the Chinese Institute of Engineers. The award was based on education, professional achievements, technical organization memberships and activities, and community service. An LANL staff member since 1979, Tiee currently oversees a remote-sensing team. He has received several awards, including an R&D 100 Award for work in light detection and ranging.

Vince Mei, a researcher in the Engineering Science and Technology Division at the Department of Energy's Oak Ridge National Laboratory (ORNL), has been elected a Fellow of the American Society of Mechanical Engineers. A member of the ORNL staff since 1979, Mei's research focuses on developing more energy-efficient heat pumps, air-conditioning, refrigeration, heat transfer, and fluid flow. Mei has been a consultant to Taiwan's Energy and Resource Laboratory since 1985.



Pete Martin, a senior staff scientist and Laboratory Fellow at the Department of Energy's Pacific Northwest National Laboratory, has been elected a Mentor, or Fellow, of the Society of Vacuum Coaters. The honor reflects more than 25 years of service to the coatings industry which includes research in thin-film coatings, authoring and co-authoring more than 150 technical publications, and serving on the Society's Board of Directors.

B. Raymond Stults is the new Director for Office of Science Programs at the Department of Energy's (DOE) Los Alamos National Laboratory (LANL). Stults' primary duties are to maintain LANL's connection with DOE's Office of Science and to formalize and document those operations at the laboratory. Previously, Stults was Associate Laboratory Director for Environmental and Energy Sciences at the Department's Idaho National Engineering and Environmental Laboratory.

G. Todd Wright is the new Director of the Savannah River Technology Center (SRTC), the applied research and development laboratory at the Department of Energy's Savannah River Site. Most recently, Wright served as Manager of Research and Technology, River Protection Project, Waste Treatment Plant at the Department's Hanford Site in Washington. Prior to his Hanford appointment, Wright was Deputy Director of the SRTC.



Three engineers at the Department of Energy's Sandia National Laboratories are new Fellows of the National Academy of Engineering: **Al Romig, Jr.**, Vice President for Science, Technology, and Partnerships; **Charles "Jack" Jakowatz, Jr.**, Manager, Signal Processing and Research Department; and **James Asay**, Sandia consultant and former Deputy Director for Weapon Science Applications.

Tom Rollow has been appointed Director of the Office of Worker Advocacy in the Department of Energy's (DOE) Office of Environment, Safety and Health. He will be responsible for managing and directing DOE's implementation of the Energy Employees Occupational Illness Compensation Program Act. "Tom Rollow's knowledge of the DOE complex combined with his strong project management skills will be invaluable to the office," said Deputy Secretary of Energy Kyle McLarrow. Rollow is an experienced DOE and Navy senior project manager and has more than 27 years of Federal and U.S. Navy service.

Robert Benedict, Deputy Associate Laboratory Director for the Department of Energy's Argonne National Laboratory-West in Idaho Falls, Idaho, is the recipient of the Outstanding Engineer Award from the College of Engineering at Idaho State University for his outstanding service in the engineering profession in or for the State of Idaho. Benedict was recognized for his contributions to the advancement of nuclear engineering, including the successful development of the electrometallurgical treatment process. ❖

Milestones

YEARS OF SERVICE

April 2003

Headquarters

Energy Efficiency & Renewable

Energy - Robert H. Brewer (35 years), Thomas J. Hall (30), Elizabeth L. Shearer (30), John G. Cervo, Jr. (25). **EIA** - Velma R. Washington (35), Susan J. Harris (30), Mary L. Jones (30), Mary J. Hutzler (25), Patricia G. Wells (25). **Envir. Management** - James T. Melillo (30). **Envir., Safety & Health** - Patricia A. Bean (35), Gail F. Kleiner (35), Sharon R. Hurley (25).

FERC - Joyce G. Harris (35), Anton J. Sidoti (35), Ronald N. Lafferty (30), Susie J. Waller (30), Van Tries O. Button (25), James T. Looney (25), Carmen G. Machuga (25), Karen L. Schaeffer (25). **Fossil Energy** - Cecil C. Midgett, Jr. (25). **General Counsel** - Gloria R. Sulton (30). **Inspector General** - Darryl L. Wittenburg (30).

Management, Budget & Evaluation - Gwenda Martin (35), Mary A. Smith (35), Craig C. Ashline (30), Charles F. Drummond (30), Paul V. Kelley (30), Leon M. Todd (30), Enid Levine (25), Robert H. Pafe (25). **NNSA** - Michael D. Moffatt (35), Anna Bondarenko (30), Jack L. Petree (30), Jim Kapsales (25).

Nuclear Energy - Yvonne M. Hebron (35). **Policy & International Affairs** - Effie L. Butler (30), John R. Brodman (25). **Radioactive Waste** - Jeremiah G. Carter (30). **Science** - Felix R. Parrott, Jr. (35), Pandoria L. Carter (30), Janet B.

Veneri (30). **Security** - Arnold B. Dalinsky (35), Marshall O. Combs (30), Robert I. Newman, Jr. (25).

Field

Bonneville Power - Gregory A. Burbach (35), Gary R. Caldwell (35), Michael R. Gobler (35), Harrison McMillan, Jr. (35), Leroy P. Sanchez (35), Julie E. Adams (30), Robert W. Beck (30), Michael C. Conners (30), Lou Ann S. Divens (30), Flor M. Francisco (30), Kenneth H. Heine (30), Kirk W. Lewis (30), Jack D. Michalek (30), Franklin S. Worth (30), Kathy L. Billesbach (25), Helen A. Davis (25), Linda L. Hermeston (25), Rosa Leon (25).

Chicago - Raymond M. Kimble, Jr. (30). **Idaho** - Raymond B. Randolph (35), Van R. Scovill (30). **Kansas City Site/NNSA** - Leta F. Johnston (35). **NETL** - Melvin C. Keller (35), Joseph S. Maury (35), Fredrick P. White (30), Andrew M. Kociban (25), V. Udaya S. Rao (25). **Nevada Site/NNSA** - Dario L. Luna (25). **NNSA Service Center** - Reapard A. Justice (35), Phillip R. Tsosie (30), Richard C. Crowe (25).

Oak Ridge - James F. Leonard (30), David K. Arakawa (25), Steven W. Morrell (25). **Oakland/NNSA** - Jones H. Hom (30). **Ohio** - Steven G. Casto (30). **Pittsburgh Naval Reactors/NNSA** - Danny D. Bledsoe (30). **Rocky Flats** - Paul S. Bakke (25). **Savannah River** - Joseph T. Lyons (30), Michael C. Sellers (25). **Southwestern Power** - Forrest E. Reeves (35). **Western Area Power** - Edward Moed (30), Thomas E. Zender

(30), Donald E. Anseth (25), James E. Brand (25), Ronald K. Iverson (25).

RETIREMENTS

February 2003

Headquarters

Envir., Safety & Health - Silas D. Stadler (18 years). **Radioactive Waste** - William H. Lake, Jr. (30).

Field

Oak Ridge - Jo E. Ferguson (25). **NNSA Service Center** - Andrea Y. L. Kato (22), Nicolette Plese (25). **Schenectady Naval Reactors/NNSA** - Fredric F. Feldhaus (14). **Western Area Power** - Donald D. Ward (6).

March 2003

Headquarters

EIA - Margaret R. Natof (23). **Science** - Donald H. Priester (33).

Field

Bonneville Power - Douglas M. Goldsmith (22), M. Victoria Nuci (27). **Los Alamos Site/NNSA** - James P. Brown (16). **NNSA Service Center** - Stacey C. Johnson (29), Philip M. Monette (30), Dennis C. Platania (30), Theresa G. Ponce (34), Mary L. Smith (26). **Richland** - Devan S. Atri (14), Jane A. Gardner-Clayson (15). **Western Area Power** - Kenneth E. Mathias (31). ❖

NEW ON THE Internet

IAEA job vacancies

To recruit qualified U.S. nationals for positions, the International Atomic Energy Agency (IAEA) makes available and regularly updates its vacancy notices on the Internet at <http://www.iaea.org/worldatom/Jobs/>. A brochure providing general

information on employment as a professional staff member of the IAEA also is available at the site. For positions in the IAEA Department of Safeguards, visit the International Safeguards Project Office (ISPO) Registry at http://www.bnl.gov/ispo/positions_available_.htm.

The site is monitored by ISPO and the Office of Scientific Personnel at the Department of Energy's Brookhaven National Laboratory. Questions regarding IAEA employment may be directed to margaret.manning@hq.doe.gov. ❖

Second Solar Decathlon scheduled for 2005

The first Solar Decathlon sponsored by the Department of Energy and held on the National Mall in Washington, D.C., last fall, was such a huge success that the Department is sponsoring a second competition in 2005. The Solar Decathlon is an intercollegiate competition among student teams to design, build, and operate 500-square-foot solar-powered houses.

Participants in the 2005 event will be selected through a proposal process. A solicitation inviting interested colleges and universities to submit proposals was issued in February 2003. As many as 18 teams will be selected to participate based on the quality of their submissions. The teams will receive \$5,000 each to offset costs.

Applicants will be judged in two stages. Proposals that meet the published requirements will be evaluated to determine which teams have the most promising approach to, and potential for, building a successful entry. During the competition, the teams will be judged in 10 simultaneous contests to determine which house most efficiently employs solar energy for heating, cooling, hot water, lighting, appliances, computers, and charging an electric car. For more information, visit http://www.eere.energy.gov/solar_decathlon/.

April 2003

AROUND DOE

NREL receives local economic award

The Department of Energy's National Renewable Energy Laboratory (NREL), Golden, Colo., has received the Jefferson Economic Council's Genesis Award as "Economic Developer of the Year" in recognition of the laboratory's contribution to the sustained economic vitality of Jefferson County and its citizens. The annual award is given on behalf of Jefferson County to acknowledge outstanding economic development that has significantly added to the long-term vitality of the county.

NREL was praised for its longevity in the community and the employment and capital investment contributed to Jefferson County over the years. The facility is the nation's premier laboratory for renewable energy research and development (R&D) and a lead laboratory for energy efficiency R&D. NREL celebrated its 25th anniversary in 2002.

Savannah River assists Russian medical firm

A \$90,000 subcontract has been awarded by the Department of Energy's Savannah River Site to VNIIEF-Conversia (the economic conversion division of the All-Russian Scientific Research Institute of Experimental Physics) in Sarov, Russia, for the expansion of a company that manufactures titanium parts for medical prosthetic devices. Sarov is one of 10 closed cities that formed the core of the Russian nuclear weapons complex.

The TITAN plant is a specialty titanium manufacturing facility in the civilian part of Sarov. TITAN manufactured small quantities of high-quality prostheses parts for the U.S. company Atlas Ti International. The U.S. company wanted to contract for significant annual production quantities, but TITAN did not have the financial resources for expansion. VNIIEF-Conversia proposed, and the U.S. agreed, that the production expansion be funded under the Nuclear Cities Initiative, a program of the Department's National Nuclear Security Administration.

TITAN will purchase and install equipment needed to manufacture about 20,000 pieces per year with annual sales of approximately \$500,000. The expansion is expected to create 26 new jobs for former Russian weapons scientists and engineers. ❖

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

Official Business