DOE This Month

U.S. DEPARTMENT OF ENERGY

JUNE 2003

U.S. firms to help in Russian reactor shutdown

Brooks sworn in as NNSA Administrator

Virginia team repeats as Science Bowl winner

Oak Ridge National Laboratory award-winning fuel cell technology

DOE This Month

U.S. Department of Energy

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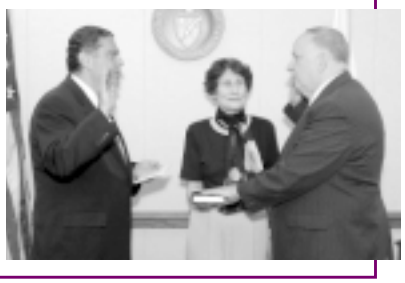
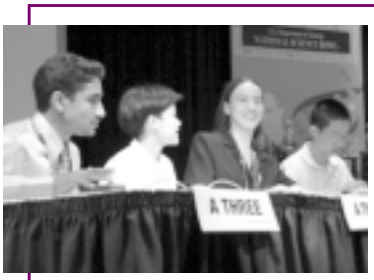
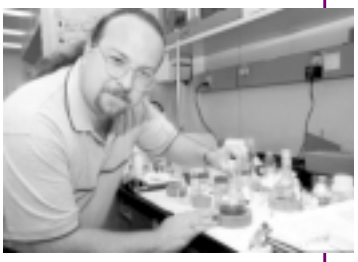
Inside







On our cover

Researcher Ted Besman of the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) displays the carbon composite bipolar plate that he and fellow ORNL researchers developed. A bipolar plate, a key component of a proton exchange membrane fuel cell used to power advanced technology vehicles, is traditionally made of machined graphite. The ORNL-developed bipolar plate is made of fiber-reinforced carbon material that separates cells in a fuel cell and acts as an electrode and gas barrier. The plate overcomes significant barriers in the areas of weight, cost, corrosion resistance, conductivity, and manufacturing. The technology has been licensed to Porvair Fuel Cell Technology.

Besman and his colleagues have received a 2003 Excellence in Technology Transfer Award from the Federal Laboratory Consortium for Technology Transfer for their efforts in transferring the carbon composite bipolar plate technology to the private sector. Researchers at nine DOE facilities received 15 of the 22 awards presented this year.

For more on the Department's award winners, see page 4. ❖

DOE selects U.S. firms to help in shutdown of Russian plutonium production reactors

The Department of Energy's (DOE) National Nuclear Security Administration (NNSA) has awarded a total of $466 million to U.S. firms Washington Group International and Raytheon Technical Services to begin work to shut down the last three remaining weapons-grade plutonium production reactors in Russia. Secretary of Energy Spencer Abraham announced the contracts at a May 27, 2003, press conference with Russian Ambassador to the United States Yuri Ushakov at DOE Headquarters, Washington, D.C.

On March 12, 2003, in Vienna, Austria, Secretary Abraham and Russian Minister of Atomic Energy Alexander Rumyantsev signed an agreement to reduce the threat from weapons of mass destruction by stopping plutonium production at the Russian reactors (*DOE This Month*, April 2003). As part of the agreement, DOE, working with its partners in Russia, will provide replacement fossil-fuel facilities to produce energy for heat and electricity currently produced by the reactors serving the cities of Seversk and Zheleznogorsk.

"Replacing these reactors with fossil fuel energy is critical to eliminate the production of weapons-grade plutonium in Russia and closing these facilities," Secretary Abraham said. "Russia and the United States have enjoyed a good relationship on this program and we look forward to continued progress."

The final contracts are expected to be in place with Washington Group International and Raytheon Technical Services by June 30. The two U.S. firms will work with the Russian contracting firm Rosatomstroi to implement shutdown programs for both sites. Washington Group International will oversee work at Seversk; Raytheon Technical Services, at Zheleznogorsk.

Secretary Abraham (at the podium) welcomes Russian Ambassador to the United States Yuri Ushakov to the press conference.

At Seversk, the U.S. will assist in refurbishing an existing fossil fuel plant. Major work will include refurbishing or replacing existing coal-fired boilers, providing one new high pressure coal-fired boiler, replacing turbine generators, completing construction of the fuel supply system, and refurbishing the industrial heating unit and ancillary systems. The refurbishment work is estimated to take five years, at which time the plutonium production reactors will shut down.

The U.S. will assist in building a new fossil fuel plant at Zheleznogorsk. Major work will include providing a cogeneration boiler, an extraction/condensing steam turbine, heating-only boilers, a fuel handling system, an ash removal system, environmental controls, and a hot water pipeline to connect the new plant with the district heating system. The estimated time of project completion is eight years, at which time the reactor will shut down. ❖

Secretary notes energy policy progress

President George W. Bush unveiled his National Energy Policy two years ago on May 16, 2001, to meet our nation's increasing demand for dependable, affordable, and environmentally sound energy. In April 2003, the House of Representatives passed comprehensive energy legislation, which includes key provisions from the Administration's energy policy. At press time, energy legislation is under consideration in the United States Senate.

In a statement marking the second anniversary, Secretary of Energy Spencer Abraham noted the progress made in achieving the goals of the plan. "The National Energy Policy offered more than 100 specific recommendations to increase domestic energy, diversify energy sources, modernize conservation efforts, and upgrade our national energy infrastructure," Secretary Abraham said. "But the National Energy Policy is more than just a list of recommendations.

"We have begun developing and implementing a second wave of policy initiatives built upon the visionary principles outlined in our original plan. These include the President's FreedomCAR and Hydrogen Fuel Initiatives, Clean Coal Power Initiatives, and investments in carbon sequestration technologies, to name a few. We also are looking over the horizon to find future energy sources by supporting the ITER partnership."

A summary of achievements is available at **http://www.energy.gov/HQPress/releases03/maypr/pr03106.htm**. ❖

DOE researchers win tech transfer awards

The Federal Laboratory Consortium for Technology Transfer has named Dr. Tom Barton, Director of the Department of Energy's (DOE) Ames Laboratory at Iowa State University (ISU), its 2003 Laboratory Director of the Year. The annual award recognizes his outstanding contributions in support of technology transfer activities at the laboratory.

"This is a well-deserved honor for Tom Barton," said ISU President Gregory Geoffroy. "He has worked tirelessly in shaping the focus of Ames Laboratory and making sure that Ames Lab is accessible to industry."

The Consortium also has presented 2003 Excellence in Technology Transfer Awards to researchers at nine Department laboratories and facilities for their successful efforts in transferring Federally developed technologies to the private sector. The Department received 15 of the 22 awards given this year to Federal laboratories. The DOE winning research teams and technologies are:

Argonne National Laboratory

- Ian Foster, Steven Tuecke, and technology partner Carl Kesselman, University of Southern California; Globus Project™ and Globus Toolkit.

Kansas City Plant, NNSA

- An 18-member research team in partnership with Felton International, Lenexa, Kan., and Russian companies MedEquipment and Russki Most Management; the Pulse™, a high speed needle-free vaccine injector system

Lawrence Berkeley National Laboratory (LBNL)

- Nicolas Bray, Inna Dubchak, Kelly Frazer, Lior Pachter, and Alexander Poliakov; visualization tool for alignments (VISTA) that quickly compares the genomes of various organisms.

LBNL, Lawrence Livermore National Laboratory, Sandia National Laboratories

- A joint research team collaborating as the Virtual National Laboratory; extreme ultraviolet lithography tool.

National Renewable Energy Laboratory (NREL), Brookhaven National Laboratory (BNL)

- Keith Gawlik, NREL, and Toshifumi Sugama, BNL; a coating system that protects heat exchanger tubes in geothermal power plants.

NREL

- Bhushan Sopori; PVSCAN, a high-speed optical scanner for characterizing photovoltaics.

Oak Ridge National Laboratory

- Regina Ferrell, Shaun Gleason, Bruce Jatko, Tom Karnowski, Ken Tobin, and Bobby Whitus; automated image retrieval system for integrated circuit devices.
- Victor Olman, Dong Wu, and Ying Xu; expression data clustering analysis and visualization (EXCAVATOR) program.
- Ted Besmann, Tim Burchell, John Henry, Jr., and James Klett; carbon composite bipolar plate for fuel cells.
- Mitch Doktycz and Steven Hicks; any source, any position fluid-handling device.

Pacific Northwest National Laboratory

- A 12-member research team; Acoustic Inspection Device, a non-invasive ultrasonic tool to assess the contents of sealed containers.
- A 13-member research team; engine exhaust after treatment system.
- Richard Chidester, Mark Goodwin, Ken Harrington, W. David Millard, Kevin Soldat, and Blanche Wood; EMAdvantage© emergency management software.

Sandia National Laboratories

- Susan Bender, Kevin MacMahon, Philip Rodacy, and Pamela Walker; a gun shot residue detection kit that enables quick identification at crime scenes.
- A nine-member research team; risk assessment methodologies to identify and correct vulnerabilities at dams, power transmission systems, and water distribution systems. ❖

Ten Department of Energy Headquarters runners made up three teams to compete in the 2003 Cherry Blossom Ten Mile Run in Washington, D.C., on April 6, 2003. The teams—Energy Stars, Renewable Renegades, and Spencer's Speedsters—had great runs and finished 8th, 12th, and 14th, respectively, in the Government team category. Secretary of Energy Spencer Abraham recently congratulated the runners on their race. L-r, with individual race times, are Gigi Lopatto, PA (102:03); Tom White, PI, (61:51, first team member to finish); Tracy Wilson, NA (68:18); Gary Chidester, CN (70:11); Secretary Abraham; Tom Robinson, EE (63:43); Tommy Rueckert, EE (65:06); Pia Hartman, EI (102:37); and Tom Leckey, EI (76:50). Absent from the photo are Cathy Reynolds, GC (89:06) and Paul Grabowski, EE (74:24). ❖

Brooks sworn in as NNSA Administrator

On May 16, 2003, Secretary of Energy Spencer Abraham administered the oath of office to Ambassador Linton F. Brooks to be Administrator of the Department of Energy's (DOE) National Nuclear Security Administration (NNSA) and Under Secretary of Energy for Nuclear Security. Brooks has held both positions in an acting capacity since July 2002. He previously served as Deputy Administrator for Nuclear Nonproliferation at NNSA.

President George W. Bush nominated Brooks for the positions of NNSA Administrator and Under Secretary on Feb. 4, 2003. He was confirmed by the United States Senate on May 1, 2003.

"Linton Brooks has done a remarkable job as Acting Administrator," Secretary Abraham said following the ceremony. "He brings to NNSA outstanding qualifications and experience. In these times of higher security threats and alerts, his leadership is needed overseeing our nation's nuclear weapons complex and international nuclear nonproliferation programs."

"I am honored for the trust shown by the President and Secretary Abraham," Administrator Brooks said. "We have an outstanding group of people working for NNSA and in our nuclear weapons complex, and there is much to do. I look forward to my continuing work with our nonproliferation and stockpile stewardship programs that promote U.S. national security."

Secretary Abraham administers the oath of office to Ambassador Linton Brooks as his wife Barbara holds the Bible.

Prior to joining NNSA, Administrator Brooks was Vice President and Assistant to the President for Policy Analysis at the Center for Naval Analyses, a Federally funded research and development facility in Alexandria, Va. His extensive Government experience includes service as Assistant Director, Arms Control and Disarmament Agency; chief U.S. negotiator for the Strategic Arms Reduction Treaty, where he earned the title of ambassador; Director of Arms Control, National Security Council; and a number of Navy and Department of Defense assignments. ❖

New construction plan approved for Hanford waste cleanup plant

The Department of Energy has authorized a new construction plan for the Waste Treatment Plant (WTP) at its Hanford Site and authorized the Office of River Protection (ORP) to proceed with the plant's construction, subject to Congressional notification. Construction of the redesigned and improved plant will facilitate tank waste cleanup 18 years earlier than originally scheduled.

After the plant is completed and commissioned in 2011, it will separate and process both high-level and low-activity radioactive tank waste. The plant will vitrify the entire high-level fraction by 2028. A combination of WTP vitrification and supplemental technologies is planned for treatment of the low-activity wastes, allowing completion of the mission by 2028.

The updated construction plan employs a multifaceted waste treatment approach using a single WTP with two high-capacity, high-level waste melters, two higher-capacity low-activity waste melters, and supplemental treatment technologies to treat the remaining low-activity tank waste. In addition to the substantial increase in melter capability, plant improvements include an enhanced onsite analytical laboratory and the addition of a training simulator.

"We're moving forward with a solution that matches treatment to the character of the waste, and allows us to finish the job with a single, highly-capable WTP," said Roy Schepens, ORP Manager. "Installing the second high-capacity, high-level waste melter provides the fastest, surest way to treat the tank waste by the 2028 Tri-Party Agreement date. The original phased approach simply took too long to get the job done."

Limited construction of the WTP was approved in July 2002, which allowed the building of the foundations and below ground structures. To date, construction contractor Bechtel National, Inc. (BNI) has excavated over 900,000 cubic yards of soil, placed 34,000 cubic yards of concrete and 10,000 tons of rebar, and installed nearly 26 miles of piping and conduit. The first installment of structural steel above grade is expected to occur in August 2003.

"This will be an exciting year for construction of the WTP," said Schepens. "With the approval for full construction, we'll start to see these facilities come out of the ground at Hanford." ❖

VA Medical Centers earn ENERGY STAR® awards

The ENERGY STAR® Award for achievements in energy efficiency was presented to 18 Veterans Affairs Medical Centers (VAMC) on May 14, 2003, at Department of Veterans Affairs (VA) Headquarters, Washington, D.C. Presenting the awards were David Garman, Assistant Secretary for Energy Efficiency and Renewable Energy, Department of Energy (DOE); Christie Whitman, Administrator, Environmental Protection Agency (EPA); and Anthony Principi, Secretary of Veterans Affairs.

The ENERGY STAR program recognizes U.S. buildings that are within the top 25 percent in energy efficiency among their peers. The winning VA Medical Centers were identified and qualified through a joint effort of DOE's Federal Energy Management Program (FEMP), EPA, VA, and the Department's Oak Ridge National Laboratory (ORNL). Team members included Beverly Dyer, FEMP; Terry Sharp, ORNL; Raj Garg, VA; and Clark Reed, EPA. Over 150 VA hospitals were evaluated against the ENERGY STAR benchmark.

Medical facilities use energy at twice the rate of office space and three times the rate of schools. The nation's inpatient care hospitals, which represent less than one percent of the nation's total building stock, consume seven percent of the nation's commercial building energy. The more than 200 Federal hospitals in the U.S. consume approximately 13 percent of the energy used in Federal buildings. These energy-intensive facilities present great opportunities for saving energy.

"Now more than ever before, it is critical that we provide Federal leadership to save money through smart energy practices in our nation's hospitals. These scarce resources can be better applied to serving the medical needs of our veterans and all Americans," Assistant Secretary Garman said.

Terry Gerigk (second from left), Associate Director, Veterans Affairs (VA) Pittsburgh Healthcare System, accepts the ENERGY STAR Award from (l-r) David Garman, DOE Assistant Secretary for Energy Efficiency and Renewable Energy; Christie Whitman, EPA Administrator; and Anthony Principi, Secretary of Veterans Affairs.

The Federal Government is leading the way. VA hospitals comprise 70 percent of the medical facilities that have received the ENERGY STAR label. In terms of real energy and financial benefits, the 18 VA hospitals that achieved the rating are saving more than one trillion Btu's of energy annually—equivalent to more than $100 million in cost savings in the next 10 years compared to the average hospital.

The award-winning hospitals are: Hunter Holmes McGuire VAMC, Richmond, Va.; VA Puget Sound Healthcare-Seattle, Washington; Boise VAMC, Idaho; Central Arkansas Veterans Health Care System-Little Rock; Louis A. Johnson VAMC, Clarksburg, W.Va.; North Arizona VAMC-Prescott; Philadelphia VAMC, Pennsylvania; VA Pittsburgh Healthcare System-University Drive, Pennsylvania; Wilmington VAMC, Delaware; Portland VAMC, Oregon; South Arizona VAMC-Tucson; Connecticut VAMC, Westhaven; VA Palo Alto Health Care System, California; New Mexico VA Healthcare System-Albuquerque; VA Boston Healthcare System-Jamaica Plain Campus, Massachusetts; VA Northern Indiana Health Care System-Fort Wayne Campus; Fargo VAMC, North Dakota; and Fort Harrison VAMC, Montana. ❖

Students observe Generation IV talks in South Africa

Nuclear engineering students Justin Nelson and Patricia Glenn from South Carolina State University (SCSU)—the first U.S. university to launch a nuclear engineering program in the past 25 years—joined the United States delegation at the mid-March 2003 meeting of the Generation IV International Forum (GIF) Policy Group in Cape Town, South Africa.

The students, along with SCSU nuclear engineering instructor Vicentica Valdes, observed as senior governmental representatives from Canada, France, Japan, Korea, South Africa, Switzerland, the United Kingdom, and the U.S. discussed policy related to the research agenda for the Generation IV Nuclear Energy Systems Initiative. The students also toured state-of-the-art research facilities at Potchefstroom University, the Pebble Bed Modular Reactor development facilities in Pelindaba, and the Koeburg nuclear power plant.

With several GIF Policy Group members are, seated, Nelson (far left); Linsey McDaniel, Office of Nuclear Energy, Science and Technology, Department of Energy (second from left); Valdes (second from right); and Glenn (far right). ❖

Team repeats as Science Bowl champions

After an intense nine-division round robin competition and an 18-team double elimination tournament, the student team from Thomas Jefferson High School for Science and Technology, Alexandria, Va., defended its 2002 title and took top honors in the Department of Energy (DOE) 2003 National Science Bowl®. The two-day competition was held May 4-5, 2003, at the National 4-H Center, Chevy Chase, Md.

A total of 66 high school teams from 39 states, the District of Columbia, and the U.S. Virgin Islands participated in the 13th annual national event. The teams were the winners of regional science bowl tournaments held earlier this year at DOE sites, other Federal agencies, and educational institutions. More than 13,000 students from 1,800 schools participated in the regional competitions, and more than 5,000 volunteers served as officials and provided assistance.

"The Department of Energy has a keen interest in encouraging America's youth to study science and pursue careers in the sciences because our national laboratories conduct some of the most sophisticated research and development work in the world. I congratulate everyone who participated in this year's National Science Bowl," Secretary of Energy Spencer Abraham said.

The winning team was sponsored by the Department's Thomas Jefferson National Accelerator Facility, Newport News, Va. In addition to receiving the first-place trophy, the team will attend the two-week International Science School at the University of Sydney, Australia.

The second place Centerville High School team from Ohio, sponsored by DOE's Miamisburg Environmental Management Project, will attend the two week International Youth Science Forum in London, England. The team from third place A&M Consolidated High School, College Station, Texas, sponsored by Texas A&M University, will conduct environmental research for a week in South Carolina.

Placing fourth was Taylor Allderdice High School, Pittsburgh, Pa., sponsored by DOE's National Energy Technology Laboratory - Pittsburgh. The fifth place winner was Cincinnati Country Day School from Ohio, sponsored by DOE's Fernald Environmental Management Project. Civility Award winner Lexington High School from Massachusetts, sponsored by the University of Southern Maine, will spend a week at the Crow Canyon Archaeological Center, Cortez, Colo.

Texas Instruments provided a TI-83 silver edition calculator to each member of the top five teams and the Computer Based Laboratory II to the top three schools. Each member of the Civility Award winning team also received Personal Data Assistants from IBM. The top 18 teams received $1,000 for their schools' science departments.

The Office of Science administers the National Science Bowl for the Department. Cosponsors of this year's competition were Bechtel, General Motors, IBM, and Texas Instruments. ❖

The Thomas Jefferson High School for Science and Technology team enjoys a lighter moment. L-r, are students Sumanth Ravipati, My-Linh Nguyen, Kay Aull, and Michael Zhang. The other team members are student Paul Yang and coach Sharon Baker.

On May 3, 2003, 10 National Science Bowl® teams selected by "lottery" competed in the first annual Hydrogen Fuel Cell Model Car Challenge. The teams designed, built, and tested the model cars and then competed in a grand prix speed race and a contest to see which car could climb the steepest incline. The winner of each race received $1,000 for its school's science department; second and third place teams, $750 and $500, respectively.

In the photograph, the Soda Springs High School team from Idaho, sponsored by DOE's Idaho Operations Office, shows its winning form on the way to first place in the King of the Hill contest. West Chester East High School from Pennsylvania, sponsored by the National Organization of Black Chemists and Chemical Engineers-Philadelphia, placed second; Cookeville High School from Tennessee, sponsored by DOE's Oak Ridge Institute for Science and Education, came in third.

Pullman High School from Washington, sponsored by DOE's Richland Operations Office, won the Grand Prix speed race. Placing second was Eight Mile School, Trenton, N.D., sponsored by The Heritage Institute. Third place went to Maui High School, Kahlului, Hawaii, sponsored by DOE's Pacific Liaison Office. ❖

Y-12 facility hosts 100th IAEA inspection

The Department of Energy's Y-12 National Security Complex in Oak Ridge, Tenn., a National Nuclear Security Administration (NNSA) facility, hosted its 100th inspection by the International Atomic Energy Agency (IAEA) in April 2003. The inspections are part of the United States commitment to Article VI of the Nuclear Nonproliferation Treaty entered into by the U.S. in 1970. The 100th inspection took place during a historical time for the facility—the celebration of its 60th anniversary.

Y-12 has been hosting monthly inspections by IAEA since 1994. "The IAEA serves an essential role in protecting global security and we support them in this capacity," said William Brumley, Manager, NNSA Y-12 Site Office.

To commemorate the event, the inspectors were presented plaques signed by Secretary of Energy Spencer Abraham. From l-r are Jean-Yves Lefebvre, IAEA; William Brumley; Dennis Ruddy, President and General Manager, BWXT Y-12; and Ok Seok Seo, IAEA. ❖

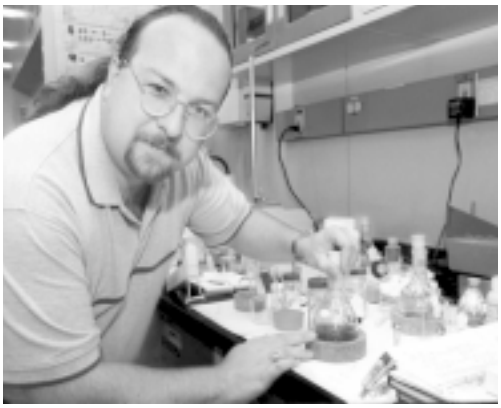
Savannah River uranium materials bound for Utah

Low-level uranium materials that have been stored at the Department of Energy's Savannah River Site for decades have begun their journey to Envirocare of Utah for disposal.

On March 12, 2003, the first shipment of depleted uranium stored in the M Area buildings for more than 10 years left the Site. The uranium, which originally came to Savannah River from the Department's Fernald Site, once was used to manufacture Mk-31 targets for use in Savannah River's reactors. Shipped in its original packing, the material, at left, meets all regulations for transporting radioactive materials on public highways.

In a pilot program, 3,270 of 35,000 55-gallon drums of depleted uranium oxide (DUO) are being shipped to Envirocare over the next few months. The powder-like oxide, a byproduct of operations in F Area, has no further use at Savannah River. If all goes well with the pilot shipments, the rest of the material also will be sent for final disposition. ❖

INEEL makes progress in lithium battery research



Researchers at the Department of Energy's Idaho National Engineering and Environmental Laboratory are working to give the longer-life lithium battery they developed two years ago more power and open up more applications for its use. Initially, the scientists developed a clear membrane by mixing a gel-like polymer and a powdery ceramic. The membrane separates the positive and negative parts of the battery, prevents electricity from "leaking" from one electrode to the other, and encourages maximum "flow" of positive ions.

But the battery still needed more power to be commercially competitive. Chemists Thomas Luther; Mason Harrup, working with a polymer solution at left; and Fred Stewart used nuclear magnetic resonance to analyze the membrane and then applied infrared and raman spectroscopy techniques that measure vibration frequencies and the rocking and bending of bonds between different nuclei. With a better understanding of how lithium ions move through the membrane, the researchers are making new versions to optimize lithium ion flow and greatly improve the battery's power. ❖

New DWPF melter in operation at Savannah River

The Defense Waste Processing Facility (DWPF) at the Department of Energy's Savannah River Site is again processing radioactive waste after a six-month outage and successful installation of a second melter. The 65-ton melter was installed in January 2003. Following startup testing and gradual heat-up, the new melter began pouring radioactive glass on March 29, 2003.

A major task completed during the outage was replacement of the facility's control room equipment with a more modern Distributed Control System. Other obsolete equipment also was replaced, making the facility more viable for its long-term operations.

The first melter operated continuously for more than eight years—more than three times its design life. It produced more than 1,300 waste glass canisters, about 27 percent of the projected total. At right, the new melter passes the old one during delivery to Savannah River. ❖

Bailey discusses global energy issues at AABE conference

Assistant Secretary for Policy and International Affairs Vicky Bailey attended the 26th Annual Conference of the American Association of Blacks in Energy (AABE), held April 21-25, 2003, in Philadelphia, Pa. Assistant Secretary Bailey gave the keynote address at the April 23 session, "What Is the Global Energy Picture: Energy Issues Around the World."

AABE, founded in 1977, is a national association of energy professionals dedicated to ensure the input of African Americans and other minorities into the discussions and developments of energy policies, regulations, R&D technologies, and environmental issues. The Association currently is working with the Department of Energy (DOE) and others to facilitate the decrease of U.S. dependence on traditional sources of oil. For more information on AABE, contact Margaret Lewis, DOE's Bonneville Power Administration (BPA), 503-230-7552, or mllewis@bpa.gov.

At the conference, l-r, are Sonya Baskerville and Margaret Lewis, BPA; Assistant Secretary Bailey; Kirsten Watts, BPA; and Carolyn Haylock-White, Policy and International Affairs, DOE Headquarters. ❖

Waste removal underway at Hanford Tank C-106

Radioactive waste is being removed from Tank C-106, one of the oldest waste tanks and the first selected for closure at the Department of Energy's (DOE) Hanford Site. Most of the liquid waste—approximately 18,000 gallons—was pumped out of the tank on April 1, 2003. Work is now underway by DOE's Office of River Protection and cleanup contractor CH2M HILL Hanford Group to remove the last 10,000 gallons of thick sludge waste.

C-106, built in 1943, is one of the first of 177 large underground tanks constructed at Hanford over the decades to store radioactive and hazardous waste. A heat problem put C-106 on a Congressional watch list of 60 dangerous Hanford waste tanks. Most of the waste in C-106 was transferred to another tank in the late 1990's to solve the high-heat problem.

At right, in preparation for the sludge phase, workers remove a 50-year-old pump that had become stuck after decades of heating and cooling cycles in C-106. ❖

DOE a leader in environmental protection

In an April 21, 2003, memorandum for Heads of Departmental Elements, Secretary of Energy Spencer Abraham reinforced the Department of Energy's (DOE) commitment to protect the environment while conducting its national security and energy-related missions. Secretary Abraham endorsed environmental management systems and pollution prevention to reduce the amount of waste the Department produces and releases to the environment and cited the importance of DOE's newly issued Order 450.1, "Environmental Protection Program." The memorandum, issued as part of the Department's Earth Day 2003 observance, is available at **http://www.eh.doe.gov/oepa/guidance/p2/earthday2003.pdf**.

DOE leads all Federal agencies in the number of sites that have registered environmental management systems and is recognized by the Environmental Protection Agency's National Environmental Performance Track for sustained environmental performance. The Department has made good progress toward meeting its pollution prevention goals for 2005, but more can be done. Secretary Abraham has charged all Department programs to reinvigorate their efforts to assure that those goals are met.

Seventeen pollution prevention projects and practices from 10 sites were recognized on Earth Day for winning the 2003 DOE Pollution Prevention Award. The achievements range from waste minimization and recycling, to environmental sustainability in building design and construction, to "green" procurement of environmentally preferable products and services. The winning sites are Argonne National Laboratory-East, Hanford Site, National Nuclear Security Administration Headquarters (John Marchetti, Individual), Oak Ridge National Laboratory, Oak Ridge Operations Office, Paducah Gaseous Diffusion Plant, Pantex Plant, Sandia National Laboratories-New Mexico, Savannah River Site, and Y-12 National Security Complex. A synopsis of each achievement is available at **http://www.eh.doe.gov/oepa/guidance/p2/awards2003.pdf**.

The DOE award winning projects were submitted for the White House Closing the Circle Environmental Awards competition. The Sandia National Laboratories-New Mexico project, "Incorporating Sustainability for New Buildings," received the White House award. Sandia demonstrated how sustainable design can be integrated at no added cost in facility planning, design, and construction.

Dr. Raymond Orbach, Director, Office of Science, and Beverly Cook, Assistant Secretary for Environment, Safety, and Health, review the Earth Day 2003 exhibit at DOE Headquarters.

More information on the Department's progress in implementing environmental management systems and meeting its pollution prevention goals is available in the recently issued *EO 13148 Greening the Government Through Environmental Management Annual Progress Report 2002* at **http://www.eh.doe.gov/oepa/data/eo13148/2003.pdf**. ❖

COMING Events

August

17-20 Energy 2003 Workshop and Exposition, Lake Buena Vista, Fla. Sponsored by the Department of Energy's Federal Energy Management Program. Cosponsored by the Department of Defense and the General Services Administration. This sixth annual national energy management workshop and exposition is aimed at Federal, state, local government, and private sector energy managers; procurement officials; engineers; utility representatives; and others involved in energy management. Attendees will learn about the latest strategies and cost-effective, energy-saving, renewable energy and water efficiency products and equipment. Registration and additional workshop details are available at **http://www.energy2003.ee.doe.gov**.

November

17-19 Clean Coal and Power Conference, Washington, D.C. Cosponsored by the Department of Energy's (DOE) Office of Fossil Energy, the Center for Energy and Economic Development, the National Mining Association, the Electric Power Research Institute, and the Council of Industrial Boiler Owners. The Clean Coal and Power Conference will explore the significance of coal as a viable energy source to meet the growing global demand for energy. The conference is being held in conjunction with the Second Joint U.S.-People's Republic of China (PRC) Conference on Clean Energy, an activity of a joint protocol agreement entered into by DOE's Office of Fossil Energy and the Ministry of Science and Technology, PRC. Additional information is available at **http://www.fe.doe.gov/events/cleancoal/index.html**. ❖

Research DIGEST

A newly discovered enzyme taken from a microbe that thrives in the depths of a Yellowstone National Park hot springs pool could lead to an environmentally benign treatment for wastewater from the hydrogen-peroxide bleaching process used in such industries as textile and pulp and paper. Chemical engineer Vicki Thompson and biologist William Apel from the Department of Energy's **Idaho National Engineering and Environmental Laboratory** discovered that the catalase enzyme from a *Thermus brockianus* microbe flourishes in the high temperature and high pH (base or alkaline) wastewater. The enzyme also chemically converts hydrogen peroxide into natural products—water and oxygen. In laboratory tests, the enzyme converted hydrogen peroxide for 360 hours compared to 15 or 20 minutes for other, commercially available catalases. (John Walsh, 208-526-8646)

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The Department of Energy's **Pacific Northwest National Laboratory** has created a Chemical Testing Chamber to identify harmful chemicals in the air as well as test the performance of sensors used to detect weapons of mass destruction. The chamber includes a powerful new gas chromatograph-mass spectrometer, which can be used to identify concentrations of any one of thousands of organic chemicals. The facility is different from other chemical testing chambers in that it gives scientists the capability to work with the very low concentrations of semi-volatile chemicals. Semi-volatile chemicals are used to produce pesticides and herbicides, but also can be used in chemical weapons. The chamber is undergoing final performance testing and will be ready for research use later this year. (Greg Koller, 509-372-4864)

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Researchers at the Department of Energy's **Argonne National Laboratory** have developed a new software tool to help those on the front lines plan for and carry out their duties in the event of a large scale emergency. The Emergency Response Synchronization Matrix (ERSM) helps emergency managers develop crisis plans that coordinate actions across jurisdictions over an extended period of time. The ERSM provides a graphic display of the relationships among all of the response activities of each jurisdiction and allows emergency managers to consider "what if" scenarios before and during a response—an important capability for decision making. Besides emergency planning and response, the ERSM can be used to develop and run emergency exercises. (Donna Jones Pelkie, 630-252-5501)

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An aerosol-based system for sealing the ducts of large commercial buildings has been developed by scientists at the Department of Energy's **Lawrence Berkeley National Laboratory** (LBNL). MASIS, which stands for "mobile aerosol-sealant injection system," is based on the aerosol duct-sealing device developed by LBNL researchers for sealing ducts and reducing energy loss in residential and small commercial systems. MASIS incorporates two new patented technologies that permit effective sealing in the larger, more complicated duct systems of commercial buildings. "To increase the flow of aerosol sealant in larger ducts, we designed a sealing system that uses a number of compact aerosol injectors," says Duo Wang, LBNL scientist and co-developer of the technology. (Allen Chen, 510-486-4210) ❖

Teams win Project Management Awards

Three Department of Energy project teams are recipients of the Secretary of Energy's Third Annual Project Management Awards. The awards, announced on May 20, 2003, recognize outstanding performance based on successful or near completion and overall management of a project or program. The award categories and winners are:

- **Secretary's Excellence in Acquisition** – Highly Enriched Uranium (HEU) Blend-Down Project Team, Office of Fissile Materials Disposition, National Nuclear Security Administration (NNSA); supported the NNSA strategic goal to protect or eliminate weapons and weapons-usable nuclear material and/or infrastructure.
- **Secretary's Award of Achievement; Secretary's Acquisition Improvement Award** – Nonproliferation and International Security (NIS) Center Project Team, Office of Nonproliferation Research and Engineering, NNSA; consolidated NIS program and division resources and functions with occupancy of new laboratory office complex.
- **Secretary's Award of Achievement** – Building 371 Closure Project Team, Rocky Flats Field Office; stabilized and repackaged 106,000 kilograms of plutonium residue to improve safety to the worker, public, and environment.

"Over the past several years, the Department has had a concerted effort to improve the way we manage our projects," Deputy Secretary of Energy Kyle McSlarrow said. "All of you involved in these projects should be proud of what you have accomplished, and I personally applaud your efforts. It is a pleasure to see that your hard work is paying off." ❖

DOE seeks hydrogen demonstration projects

A $150 million solicitation has been issued by the Department of Energy (DOE) for a five-year project to spur the development of both hydrogen vehicles and the hydrogen infrastructure needed to support them. The solicitation will help implement the Administration's Hydrogen Fuel Initiative and support the FreedomCAR Initiative. "This solicitation is an important step toward fulfilling the President's vision that the first car of a child born today will be powered by hydrogen," Secretary of Energy Spencer Abraham said.

The Demonstration and Validation of Hydrogen Vehicles and Infrastructure solicitation seeks proposals for 50/50 cost-shared cooperative agreements. Project teams will consist of an automobile manufacturer and an energy company in combination with hydrogen fuel cell manufacturers, small businesses, universities, and state/local governments. The winning projects could take several forms, such as producing a fleet of hydrogen vehicles or building more fuel stations.

Subject to appropriations, DOE will allocate approximately $25 million in Fiscal Year 2004 for projects selected under the solicitation. A total of three to five projects may be selected. The closing date for proposals is Aug. 14, 2003. The Office of Hydrogen, Fuel Cell, and Infrastructure Technologies in the Office of Energy Efficiency and Renewable Energy is the responsible program office for the solicitation. Additional information is available at **http://www.eere.energy.gov/hydrogenandfuelcells/2003_solicitation_notice.html**. ❖

Plutonium disposition program to move forward

The Department of Energy's National Nuclear Security Administration plans to move forward with the fabrication of approximately 6.5 metric tons of surplus U.S. weapons-grade plutonium, previously intended for immobilization, into mixed oxide (MOX) fuel at the Department's Savannah River Site. The decision is part of the Administration's restructuring of the U.S. plutonium disposition program, which will dispose of 34 metric tons of surplus weapons-grade plutonium into MOX fuel for use in nuclear reactors. The action amends the January 2000 Record of Decision for the Surplus Plutonium Disposition Environmental Impact Statement.

In September 2000, the United States and Russia agreed to dispose of 68 metric tons of surplus weapons-grade plutonium. Both countries will dispose of their plutonium by irradiating it as MOX fuel in existing nuclear reactors, making the plutonium no longer readily usable for nuclear weapons.

The next major milestone for the plutonium disposition program, scheduled for Fiscal Year (FY) 2004, is obtaining a construction license from the Nuclear Regulatory Commission for the U.S. MOX facility. The start of construction will parallel construction of a similar facility in Russia. The U.S. MOX facility currently is scheduled to start operations in FY 2008. When fully operational, it will produce 3.5 metric tons of MOX fuel per year. ❖

NEW Publications

Office of Inspector General (IG) reports: ***Beryllium Oxide Operations at the Y-12 National Security Complex*** (DOE/IG-0595); ***University of California's Costs Claimed and Related Internal Controls for Operation of Los Alamos National Laboratory*** (DOE/IG-0596); ***Inspection of Internal Controls Over Personal Computers at Los Alamos National Laboratory*** (DOE/IG-0597); ***Status of the National Ignition Facility Project*** (DOE/IG-0598); ***Power Marketing Administration Infrastructure Protection*** (OAS-B-03-01); ***Planning for National Nuclear Security Administration Infrastructure*** (OAS-B-03-02); ***Infrastructure Improvements at the Hanford Site*** (OAS-B-03-03). 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/**.

International Energy Outlook 2003 (DOE/EIA-0484-2003), from the Department of Energy's Energy Information Administration (EIA), reports that worldwide consumption of commercial energy is projected to grow by 58 percent over the next 25 years, with much of the growth occurring in the developing world. The natural gas share of total worldwide energy consumption is projected to increase from 23 percent in 2001 to 28 percent in 2025. Renewable energy use worldwide is expected to increase by 56 percent between 2001 and 2025. The report is available at **http://www.eia.doe.gov/oiaf/ieo/index.html**. Additional information on this and other 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, e-mail: infoctr@eia.doe.gov. ❖

Education NOTES

The Department of Energy's **Los Alamos National Laboratory** (LANL) and the University of California, San Diego (UCSD), recently announced plans for a joint education initiative to train engineers in disciplines that support LANL's mission in enhancing global security. LANL plans to hire about 300 engineers over the next five years, many of them early in their careers. The initiative with the UCSD Jacobs School of Engineering will help fill the laboratory's need for a well-trained workforce. A primary focus will be creation of a graduate-level, research-based engineering degree program co-located at the university and Los Alamos. Students will be required to participate in ongoing research at LANL or at UCSD, and qualified students may opt to continue on for a Ph.D. Beginning this summer, four UCSD structural engineering graduate students will be awarded Los Alamos fellowships. Eventually, as many as 30 students a year may enroll in the program.

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More than 5,000 students from 80 schools in Idaho, Utah, Nevada, and Wyoming attended the 14th annual Utah State University Physics Day at Lagoon Amusement Park in Farmington, Utah. Physics Day is an education outreach activity run jointly by the university's Physics Department and the Department of Energy's **Idaho National Engineering and Environmental Laboratory**. The daylong event is designed to be an educational approach to teaching fundamental physics concepts to middle school and high school students, using an amusement park as a laboratory. Students participated in a Colossus Colossal G-Force contest, physics bowl competition, student workbooks, and a contest in demonstration design, ride design, and logo design. Prizes and scholarship were awarded to competition winners.

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Westinghouse Savannah River Company (WSRC), management and operations contractor for the Department of Energy's **Savannah River Site**, recently announced the winners of its 2003 Excellence-In-Teaching Mini Grants. The program provides grant money to enhance public elementary and middle school science, mathematics and technology programs. A team of WSRC employees reviewed 321 grant proposals submitted this year and selected 111 to receive funding totaling $50,000. Elementary and middle public school teachers from seven South Carolina counties were eligible to receive grants of $350, $750, or $1,000. Since the program began in 1989, WSRC has awarded nearly $600,000 to fund 1,096 projects to over 1,200 teachers in the Central Savannah River Area.

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The Department of Energy's **Lawrence Livermore National Laboratory** (LLNL) in California recently completed its eighth season of "Science on Saturday," featuring talks on medical technologies, forensic science, and astrophysics. The program is a five-week series of free 60-minute talks geared toward middle school and high school students. The series, which began in 1996, has proved to be tremendously popular, drawing more than 300 students, their parents, and teachers to each lecture. The series is cosponsored by LLNL and the Livermore chapter of Sigma Xi, the Scientific Research Society. ❖

Students tackle Oak Ridge technical report

In 1996, Dr. Timothy Joseph, a senior scientist at the Department of Energy's (DOE) Oak Ridge Operations Office (ORO) and a former high school teacher, decided that high school students were the best resource to take a complex technical report and explain it to stakeholders and the public in a way that would be understandable and easy to read. So, along with the Department's Oak Ridge National Laboratory (ORNL), Joseph teamed with Karns High School in Oak Ridge to produce the *Oak Ridge Reservation Annual Site Environmental Report (ASER) Summary*.

Since that time, the annual summary has become a highly read and demanded document locally and has gained a statewide reputation. This year's effort, which reported data for the year 2001, earned the State of Tennessee's prestigious Environmental Awareness Award for the fall 2002 Applied Communications class at Karns High School.

This is a win-win situation for all. The document benefits stakeholders and the students learn a great deal during site visits and through meetings with DOE and ORNL scientists. A cover design contest is sponsored each year, awarding $100 to the winning student artist or photographer. Artwork of other students is featured throughout the document.

At ASER conferences, Joseph has presented guidance, advice, and encouragement to other DOE facilities to take up the challenge and team with a high school. Dr. Norbert Golchert of the Department's Argonne National Laboratory used the "Tim Joseph Model" and found the experience totally rewarding for the site, school, students, and stakeholders. Joseph is ready to assist other interested DOE sites.

Copies of the Oak Ridge ASER Summary are available from Joseph at 865-576-1582 or josepht@oro.doe.gov or on the Internet at **http://www.ornl.gov/aser**. ❖

People IN ENERGY

Kathryn McCarthy, Ph.D., has been named Director of Nuclear Science and Engineering, a new directorate at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) created in response to INEEL's growing nuclear energy mission. Her areas of responsibility will include research and development in nuclear systems analysis and design, fusion, reactor and radiation physics, thermal fluids, and nuclear fuels and materials. Most recently, McCarthy was Manager of INEEL's Nuclear Engineering Design and Research Department.

President George W. Bush has announced his intent to nominate **Rick A. Dearborn** to be Assistant Secretary of Energy for Congressional and Intergovernmental Affairs. Dearborn currently serves as Legislative Director for Senator Jeff Sessions. He previously served on the Senate Steering Committee as Chairman Senator Kay Bailey Hutchison's Director of Strategy and Floor Operations. The nomination is subject to Senate confirmation.

Paul M. Longsworth has been nominated by President George W. Bush to be Deputy Administrator for Defense Nuclear Nonproliferation in the Department of Energy's National Nuclear Security Administration. Longsworth currently is a Senior Policy Advisor to Secretary of Energy Spencer Abraham. He previously served as a Professional Staff Member of the Senate Committee on Armed Services and as a Legislative Fellow to the Senate Committee on Environment and Public Works. The nomination is subject to Senate confirmation.

Robert F. Warther has been appointed Manager of the Department of Energy's (DOE) Ohio Field Office in Miamisburg. His responsibilities include the management of activities at the Department's closure projects in Ohio—Fernald, Miamisburg, Ashtabula, and Columbus—and the West Valley Demonstration Project in New York. Previously, Warther served as the Field Office Director for the Defense Nuclear Facilities Safety Board (DNFSB) at DOE's Rocky Flats Site and as a Program Manager at the DNFSB in Washington, D.C.

Secretary of Energy Spencer Abraham has appointed **Claudia A. Cross**, Director, Office of Human Resources Management, at Department of Energy (DOE) Headquarters, as the Department's Chief Human Capital Officer. Cross, who has been with the Department since 1986, will serve as the chief policy advisor to the Secretary and other senior DOE officials on all human resources management issues.

Alex Harris is the new Chair of the Chemistry Department at the Department of Energy's Brookhaven National Laboratory (BNL). Most recently, Harris was Director of the Guided Wave and Electro-optics Research Department at Agere Systems, Allentown, Pa. Previously, he was Head of the Materials Chemistry Research Department with Bell Laboratories, Lucent Technologies.

Stephen Mee, program manager of the Cerro Grande Rehabilitation Project Office at the Department of Energy's Los Alamos National Laboratory, has been named the national Minority Small Business Advocate of the Year by the U.S. Small Business Administration (SBA). Mee earlier was named the New Mexico and SBA Region 6 recipient of the award. He will be recognized at the Small Business Week Entrepreneurial Conference and Expo, Sept. 17-19, 2003, in Washington, D.C.

Bill Madia, Director of the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) and President of UT-Battelle, has announced he will be leaving ORNL and returning to Battelle Headquarters in Columbus, Ohio. In his new position, Madia will manage all of Battelle's DOE business, which includes ORNL, Battelle's Columbus laboratories, Brookhaven and Pacific Northwest National Laboratories, and the National Renewable Energy Laboratory. Madia will remain in Oak Ridge through the selection and transition of his replacement.

Technical staff members **Jane Enter**, of the Chemistry Division at the Department of Energy's Los Alamos National Laboratory (LANL), and **Diane Albert**, of LANL's Materials Science and Technology Division, are among 20 recipients of the 2003 Governor's Award for Outstanding New Mexico Women. The award, sponsored by the New Mexico Commission on the Status of Women and the Governor's Office, honors women who are leaders in their profession and actively involved in their communities.

James A. Turi is the new Site Manager for the Department of Energy's (DOE) Thomas Jefferson National Accelerator Facility in Newport News, Va. Turi will be responsible for DOE programs and management of the Jefferson Lab Site Office, which oversees the administration of the management and operations contract with Southeastern Universities Research Association Inc. Most recently, Turi was Acting Manager of DOE's Oak Ridge Operations Office. Previously, he served in several management positions in the Office of Science at DOE Headquarters.

Praveen Chaudhari, Director of the Department of Energy's Brookhaven National Laboratory (BNL), and BNL chemist **Joanna Fowler** have been elected members of the National Academy of Sciences. They were among 72 new members and 18 foreign associates from 11 countries elected by the Academy for their distinguished and continuing achievements in original research.

Dean Matson, Senior Research Scientist in the Energy Science and Technology Directorate at the Department of Energy's Pacific Northwest National Laboratory, is the recipient of a Regional Industrial Innovation Award from the American Chemical Society. Matson received the award for his work in ultra barrier coatings.

Dawn Davidson, a procedures specialist with the Department of Energy's Argonne National Laboratory-West in Idaho, has been named Woman of the Year for 2003 by the Department's Idaho National Engineering and Environmental Laboratory. The award recognizes an outstanding woman who has made significant contributions to her work place and community. ❖

Milestones

YEARS OF SERVICE

June 2003

Headquarters

Chief Information Officer - Bonita S. Agee (35 years), Patricia A. Cooper (30), Barbara C. Jedrey (25). **Congressional & Intergovernmental** - Philip Mandel (35). **EIA** - Noel C. Balthasar (35), George D. Butler (35), Stephen F. Durbin (35). **Energy Efficiency & Renewable Energy** - Victor P. Petrolati (30), Donald K. Richardson (30). **Envir. Management** - Linda D. Everhart (35), Michael H. Kleinrock (35), Joel L. Kristal (35), Linda K. Pate (30), Gale Turi (30), Marsha L. Green (25).

Envir., Safety & Health - Susan R. Whitmore (35), Eugenia L. Boyle (30), Harry J. Pettengill (30), Francis E. Tooper (25), Gustavo A. Vazquez (25). **FERC** - Judith A. Albert (35), John R. Paquin (35), Takeshi Yamashita (35), Thomas V. Bahumian (30), Earl S. Douglas (30), Brian A. Holmes (30), Carlton L. Jackson (30), Robert M. Lippert (30), Jonathan D. Ogur (30), David A. Ricketts (30), Maxine E. Tapscott (30), Chrisandra C. Green (25), Denise E. Hamilton (25), Irene A. McCallister (25), John A. Myler (25).

Fossil Energy - Randolph Pennington (35), John M. Panek (30), Gail W. Stern (30), Louis J. Capitanio (25), Guido Dehoratiis, Jr. (25), Michael W. Jacobs (25). **General Counsel** - David R. Hughes (30), Jo Ann Williams (30). **Inspector General** - Gregory H. Friedman (35), Freeman M. Young (30), Cindy J. Miller (25). **Management, Budget & Evaluation** - Donald P. Frizzell (40), Stephen D. Mournighan (35), Doreen V. Fry (30), Edward R. Simpson (30), Craig S. Wisooker (30), Annette C. Brown (25), Mildred L. Lynn (25), Lee B. Taylor (25).

NNSA - Peter G. Armstrong (35), Sandra M. Gangawere (35), James J. Hannigan (35), Ralph Levine (35), John D. Nulton (35), Thomas N. Rodeheaver (35), Robert C. Braden, Jr. (30), Charles S. Przybylek (30), Deborah A. Wilson (30), James J. Busse (25), Robert M. Heller, Jr. (25), James R. Noble (25), Louis R. Perez (25), David P. Spears (25). **Nuclear Energy** - Peggy A. Coates (35), Richard R. Furlong (30).

Policy & International - Paul F. Carrier (30). **Science** - Sue J. Davis (30), Debra G. Frame (30), Cathy A. Hanlin (30), Margaret V. Marrow (30), Albert L. Opdenaker III (30), Brenda L. Smith (30), Chalmers Wilson III (30), Gregory B. Long (25), Robert C. Morgan (25), Ralph L. Scott (25). **Security** - Brian M. Shea (40), Brenda K. Swiger (30), Roberta C. Smith (25).

Field

Bonneville Power - Craig A. Crichton (35), Annie A. Eissler (35), David L. Gilman (35), David L. King (35), Pamela C. Odam (35), William H. Ostrander (35), Ruth B. Bennett (30), Thomas E. Caine (30), Robert H. Dickhoff (30), Patri A. Frahler (30), Lloyd A. Hill (30), Michael D. Kluth (30), Denis M. Sjoquist (30), Rick D. Stone (30), John F. White, Jr. (30), Edward R. Woessner (30), Lynn W. Baker (25), David A. Bicheno (25), Jeffrey J. Newton (25), Marvin J. Olsen (25), April D. Toll (25), Michael R. Viles (25), Karen K. Waugh (25), Barbara M. Willard (25).

Carlsbad - Barbara E. Smith (35). **Chicago** - Elaine M. Kocolowski (35), James R. Bieschke (30), Timothy J. Drawbridge (30), Marvin E. Gunn, Jr. (30), Martin W. Straka (30), Julie H. Betz (25), Edward F. Bucki (25), Michael A. Butler (25), Jean M. Campen (25). **Golden** - Roselle Drahushak-Crow (25). **Idaho** - Katherine Blackburn (35), Dennis W. Green (25), Rebecca L. Rich (25).

NETL - Jerry G. Craig (35), Fred W. Harke (35), Leo E. Makovsky (35), Douglas J. Deak (30), Debra A. Duncan (30), Richard E. Hucko (30), Deborah A. Sesher (30). **Nevada Site/NNSA** - Mitchell P. Kunich (35), Gary B. Snodgrass (30), Deborah S. Chalko (25), Sara L. Rhoades (25). **NNSA Service Center** - Sheryl J. Boutte (30), Gloria J. Chavez (30), Margaret S. White (30), Elaine M. Duran (25), Maria L. Gurule (25), Beverly S. Hudson (25), Patricia R. Padilla (25).

Oak Ridge - Edward G. Cumesty (35), James A. Turi (35), John A Meredith (30), John G. Barry (25), James M. Crytzer (25), Sylvia J. Wolfe (25). **Ohio** - Sandra E. Cramer (30). **Pantex Site/NNSA** - Anthony Greco (30). **Rocky Flats** - Gary N. Huffman (30). **Savannah River** - Alfred C. Garrett (35), Phillip R. Washer (35), Charles E. Messick (30), John R. Pescosolido (30), Rebecca H. Craft (25), Terry L. Montgomery (25).

Schenectady Naval Reactors/NNSA - Ronald R. Uhrich (40). **Southwestern Power** - Gary L. Bridges (25), Linda L. Dunham (25). **Western Area Power** - Robert G. Gray (35), Anthony J. Lucero (35), Dennis O. Coleman (30), Gary A. Loers (30), Paul J. Stuart (30), Ross M. Clark (25), Jack M. Hardgrave, Jr. (25).

RETIREMENTS

March 2003

Field

Bonneville Power - Richard J. Itami (30 years).

April 2003

Headquarters

Envir., Safety & Health - Margaret H. Sturdivant (10). **Management, Budget & Evaluation** - Denny A. Brisley (12). **NNSA** - Lynn R. Brosman (34), Bonnie M. Carnes (35), Max J. Clausen (24), Albert G. Dietz, Jr. (28), Gary T. Echert (30), Leslie W. Gage (31), John K. Garberson (34), Frances E. Hooks (36), Janice M. Hubbard (17), Anthony R. Lane (30), Carol W. Lee (36), Nellie M. Legrand (29), Jess R. Lopez (26), George R. Martinez (29), Michael V. McClary (38), Helen C. Myers (34), Emmanuel Olona (25), Linnea P. Raine (31), Gloria M. Stine (14).

Field

Bonneville Power - Dennis E. Brown (37), Deborah A. Deines (23), James P. Donaly (30), Carol M. Hawkins (22), Penelope R. Hiatt (36), Patricia C. McVein (23), Charles R. Melville (20), Joseph A. O'Rourke (11), Frederic D. Rettenmund (31). **Idaho** - Peter J. Dirkmaat (34). **Kansas City Site/NNSA** - Donald E. Austin (16), Patrick G. Currier (33). **Nevada Site/NNSA** - Douglas A. Bufis (11), James K. Delong (31), John B. Langendorf (19), Ruby A. Lopez-Owens (26). **Oakland/NNSA** - Jacqueline White (25). **Sandia Site/NNSA** - Karen A. Griffith (17), David F. Trujillo (31). **Western Area Power** - Merle W. Tucker, Jr. (35). **Y-12 Site/NNSA** - Jerry W. Robertson (27).

NNSA Service Center - Norma G. Alfaro (29), Caroline E. Bleil (40), Timothy R. Coalson (31), Beverly A. Colbert (27), Jane S. Cooper (26), Herman A. Corona (25), Garver B. Faulhaber (29), Deborah L. Fowler-Lynch (29), Robert C. Furlow (33), Bruce A. Hoselton (11), Reapard A. Justice (35), Amy Y.C. Kao (16), Dorothy C. Martinez (27), William L. McCullough (28), Nicholas G. Montoya (33), William N. Muraoka (32), Corville J. Nohava (29), Randolph Rollins (30), Joanne M. Sackett (34), Clifford A. Shaw (33), James H. Solomon (40), Jack B. Tillman (24), Phillip R. Tsosie (30), Janice M. Williams (26), Anna S. Wolfe (31). ❖

June 2003

AROUND DOE

Environmental Management office to reorganize

In keeping with the Management Agenda of President George W. Bush, which focuses on improving the management and performance of the Federal Government, the Department of Energy's Office of Environmental Management (EM) recently reexamined its organizational structure in light of its core mission. The review has led to approval of a new framework for EM Headquarters.

"The restructure of EM serves as one of my last reform initiatives in building the framework for Top-to-Bottom implementation and is critical in getting the organization clearly focused on its mission of accelerated cleanup and closure," Assistant Secretary for Environmental Management Jessie Roberson said.

Core functions detailed in the Top-to-Bottom Review will serve as the outline for daily work. The organization will consist of three key elements: line management, mission programs, and management support. An implementation team selected by Assistant Secretary Roberson will conduct a detailed review of proposed missions and functions. The team will develop staffing charts and position descriptions for the proposed organization, provide a proposed implementation schedule, and fulfill all bargaining unit requirements. The reorganization is expected to be effective sometime after July 2003.

Research project aims to cut solar cell cost

The Department of Energy's National Renewable Energy Laboratory (NREL) has awarded a three-year subcontract to Energy Conversion Devices, Inc. (ECD), Rochester Hills, Mich., to develop new solar cell manufacturing technology aimed at lowering the cost of producing solar cells. NREL will fund about $3 million of the approximately $6 million total cost, with ECD providing the balance.

ECD is a pioneer in hydrogen-based energy solutions. ECD subsidiary United Solar Systems, which operates the world's only advanced production machine for manufacturing thin-film amorphous silicon alloy solar cells and related products, will participate in the project. The research project will concentrate on developing online diagnostic systems for monitoring, closed loop control, and eventual continuous online optimization of a 30-megawatt photovoltaic manufacturing line.

LANL restores U.S. 'pit' manufacturing capability

The Department of Energy's (DOE) Los Alamos National Laboratory (LANL) has successfully made the first nuclear weapons "pit" in 14 years that meets specifications for use in the U.S. stockpile. The plutonium pit, called Qual-1 because it was built with and fully met qualified processes, is for the W88 warhead, which is carried on the Trident II D5 Submarine-Launched Cruise Missile, a cornerstone of the U.S. nuclear deterrent. A pit is the fissile core of a nuclear weapon's physics package.

The six-year effort at LANL's plutonium processing facility restores a U.S. capability lost when DOE's Rocky Flats Plant shut down in 1989. DOE identified LANL as the site to make nuclear weapon pits through the 1996 Stockpile Stewardship and Management Environmental Impact Statement.

"Our next challenge is to carry out the required experiments, analyses, and computer modeling so we can certify that this newly manufactured pit will perform reliably in the stockpile, without conducting underground nuclear tests," said LANL Interim Director Pete Nanos. This work includes material studies and fundamental physics, ongoing subcritical, and hydrodynamic experiments. LANL has committed to complete certification and be able to deliver a pit that meets stockpile requirements by 2007. ❖

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

Official Business