DOE This Month

U.S. DEPARTMENT OF ENERGY

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President Bush signs nanotechnology research act

Secretary Abraham hosts Global LNG Summit

Department's small business efforts earn awards

DOE This Month

U.S. Department of Energy

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Inside

On our cover

On Dec. 3, 2003, President Bush signed S. 189, the 21st Century Nanotechnology Research and Development Act, which authorizes funding for nanotechnology research and development (R&D) over four years starting in Fiscal Year 2005. The legislation puts into law programs and activities supported by the National Nanotechnology Initiative, one of the President's highest multi-agency R&D priorities. The Department of Energy is one of the lead agencies for nanotechnology research.

Joining President Bush at the White House Oval Office signing ceremony are (l-r) Stephen Empedocies, Co-Founder and Director of Business Development, Nanosys; Mark Modzelewski, President, Nano Business Alliance; Rep. Sherwood Boehlert, R-NY; Secretary of Energy Spencer Abraham; Richard Smalley, Nobel laureate, Rice University; Steve Jurvetson, Managing Director, Venture Capital, Draper Fisher Jurvetson; Sen. George Allen, R-VA; Floyd Kvamme, Co-Chair, President's Council of Advisors on Science and Technology; James Von Ehr, Founder and President, Zyvex (at right of Kvamme, not visible); Josh Wolfe, Lux Capital and Nanotech Report; and Joseph Piche, President and CEO, Eikos, Inc. (White House Photo by Eric Draper)

For more on the signing ceremony and nanotechnology, see page 3. ❖

President signs nanotechnology research act

On Dec. 3, 2003, President Bush signed S. 189, the 21st Century Nanotechnology Research and Development Act, which authorizes funding for nanotechnology research and development (R&D) over four years starting in Fiscal Year 2005. The legislation puts into law programs and activities supported by the National Nanotechnology Initiative (NNI), one of the President's highest multi-agency R&D priorities.

Secretary of Energy Spencer Abraham, who was present at the White House Oval Office ceremony, applauded the signing of the act. "As one of the lead agencies for nanotechnology research and development, the Department of Energy (DOE) is delighted that the President signed legislation today that brings us closer to that future," Secretary Abraham said. "This new science of very small things can revolutionize the way we produce, use, and deliver energy—not to mention its application to improving human health."

"Nanoscale research will, in many respects, represent the new building blocks for new technologies and applications across the science and industry spectrum," Secretary Abraham continued. "Understanding the properties of materials on the tiniest scale will have an impact on everything from medicine to manufacturing."

Nanomaterials—typically on the scale of billionths of a meter or 1,000 times smaller than a human hair—offer different chemical and physical properties than the same materials in bulk form and have the potential to form the basis of new technologies. Understanding these properties may allow researchers to design materials with properties tailored to specific needs such as strong, lightweight materials, new lubricants, and more efficient solar energy cells. By building structures one atom at a time, the materials may have enhanced mechanical, optical, electrical or catalytic properties. Some nanotechnology possibilities:

- Carbon nanotubes are being studied as possible building blocks of future electronic devices and, woven into cables, could provide substantially improved performance for electricity transmission lines.
- Nanotechnology may one day enable disease detection on the cellular level and the targeting of treatment only to tissues where needed.
- Nanomanufacturing of parts and materials may one day reduce waste and pollution in the manufacturing process.
- Nanosensors already are being developed to allow fast, reliable, real-time monitoring.
- Certain nanomaterials show promise for making more efficient solar cells and next-generation catalysts and membranes for hydrogen-powered fuel cells.

Five proposed Nanoscale Science Research Centers currently are being established by DOE's Office of Science at Argonne, Brookhaven, Oak Ridge, Lawrence Berkeley, and Los Alamos/Sandia National Laboratories. Information about DOE's nanoscale science program is available at **http://www.science.doe.gov/bes/NNI.htm**. Information about the NNI can be found at **http://www.nano.gov/**. ❖

Small business efforts earn awards

More than $783 million in prime contracts were awarded by the Department of Energy (DOE) to the nation's small businesses in Fiscal Year (FY) 2003. "The FY 2003 amount represents an increase of more than $200 million over the previous year's small business procurement awards of $573 million," Deputy Secretary of Energy Kyle McSlarrow said. "These small business prime contract awards represent a new record for the Energy Department.

This milestone was achieved in part due to the efforts by DOE individuals and organizations to market and reach out to small businesses nationwide. These efforts are recognized by the Department with the presentation of the Secretary's Small Business Awards. The recipients, announced at DOE's Small Business Program Managers meeting in November 2003, are:

- **DOE Achievement Award**: Office of Intelligence, DOE Headquarters, Washington, D.C.
- **DOE Small Business Diversity Award**: Western Area Power Administration, Lakewood, Colo.
- **Facility Management Contractor Small Business Teaming Award**: SM Stoller Corp., Grand Junction, Colo.
- **Facility Management Contractor Small Business Achievement Award**: CH2M HILL – Hanford Group, Richland, Wash.; Bechtel Nevada Corporation, Las Vegas, Nev.
- **DOE Headquarters Small Business Program Manager Award**: Gary Lyttek, National Nuclear Security Administration (NNSA), Washington, D.C.
- **DOE Field Office Small Business Program Manager Award**: Tammie Henderson, NNSA Service Center, Las Vegas, Nev.
- **DOE Facility Management Contractor Small Business Program Manager Award**: Will Minter, Oak Ridge National Laboratory, Oak Ridge, Tenn.
- **Mentor-Protégé Team Award**: Mentor – Westinghouse Savannah River Company, Aiken, S.C.; Protégé – NFT Inc., Lakewood, Colo.

Continuing with its small business outreach, the Department will hold its Fifth Annual Small Business Conference in June 2004. The conference will provide a nationwide networking opportunity for DOE prime contractors and other Federal agencies. Additional information on the conference will be available in the future at **http://www.smallbusiness-outreach.doe.gov**. ❖

DOE establishes new security, safeguards office

A new Office of Security and Safety Performance Assurance has been established at the Department of Energy (DOE). The new office, which will report directly to the Secretary of Energy, will be responsible for developing and implementing the Department's safeguards and security policies. This action follows a comprehensive review by Deputy Secretary of Energy Kyle McSlarrow, which identified the need to reform and better coordinate the roles of independent oversight and security policy organizations within DOE.

"We adequately protect all of our national security assets, but we can do a better job of ensuring that our policy and procedures are implemented correctly," Secretary of Energy Spencer Abraham said. "I expect this office to play an active and authoritative role in the development and implementation of the Department's safeguards and security policies. The security, safety and oversight team will work closely with all DOE and National Nuclear Security Administration (NNSA) line management staff to implement safeguards and security policies, ensuring effective programs to further protect DOE's weapons labs and other national security assets."

The two major branches of the new office—the Office of Security Policy and the Office of Independent Oversight and Performance Assurance—will remain independent of each other, ensuring the integrity of the independent oversight functions. Both offices will report to the Director of the Office of Security and Safety Performance Assurance to promote the resolution of safeguards and security policy issues identified through the independent functions of each office.

Glenn Podonsky, currently Director of DOE's Office of Independent Oversight and Performance Assurance (OA), will be appointed Director of the new office. Marshall Combs, currently Deputy Director, Office of Security, will be designated Director, Office of Security Policy. Michael Kilpatrick, currently Deputy Director, OA, will be designated Director of that office. ❖

Secretary of Energy Spencer Abraham hosted the Global Liquified Natural Gas (LNG) Ministerial Summit Dec. 17-18, 2003, in Washington, D.C. The meeting brought together Energy Ministers from 24 nations to take a fresh look at world LNG resources and markets. The Summit was a forum to explore global natural gas resources, existing and proposed supply projects, import and export terminal facilities, LNG transportation routes to North America, new and growing markets, emerging technology applications, safety, facility security, regulatory and siting challenges, and opportunities and barriers for investment in the LNG industry.

"I believe everyone here appreciates the need for an expanded, indeed global, market in Liquified Natural Gas, and the benefits that the United States, all the other consuming nations, as well as the producing nations, will derive from this potentially huge market," Secretary Abraham said in his keynote address. Secretary Abraham also detailed major challenges ahead in achieving a global market. The texts of Secretary Abraham's welcoming and keynote remarks are available at **http://www.energy.gov**; click on "Press Room," and then click on "Speeches." ❖

Argonne, industry to tackle vehicle recycling

Richard T. Gutowski, DaimlerChrysler Corp. pours automotive plastics that have been cleaned and sorted for recycling. Watching are (l-r) Ed Wall, program manager for FreedomCAR and Vehicle Technologies, DOE Office of Energy Efficiency and Renewable Energy; Harvey Drucker, Associate Laboratory Director, Argonne National Laboratory; and James Kolb, American Plastics Council.

The "junk" from junked cars will find new uses under a new research partnership among the Department of Energy's (DOE) Argonne National Laboratory; the American Plastics Council; and the Vehicle Recycling Partnership of USCAR, a consortium of DaimlerChrysler Corp., Ford Motor Co., and General Motors Corp. The five-year cooperative research agreement will build on recycling technology developed at Argonne to create a cost-effective process for recycling end-of-life vehicles.

"This project brings together the American Plastics Council's knowledge of polymers and recycling processes, Argonne's research expertise, and USCAR's understanding of the marketplace," said Harvey Drucker, Associate Laboratory Director for Energy and Environmental Science and Technology. "Together as a team, we can lead the development of viable solutions to the vehicle recycling challenges of today and the future."

With greater demands for better fuel economy and lower emissions, manufacturers are incorporating increasing amounts of lightweight and non-metallic materials into vehicles. At the end of their serviceable lives, about 15 million vehicles annually are discarded and sent to recycling companies for shredding. Much of the non-metallic materials in end-of-life vehicles cannot be recycled due to the difficulty of separating and sorting the materials as well as a lack of existing markets and applications for recycled non-metallics. This leftover "shredder residue," which makes up about 25 percent of every junked vehicle, must then be landfilled at significant cost to the vehicle recycler. The research agreement aims at changing that situation.

A new pilot recycling facility already operating at Argonne will serve as a focal point for the research. The pilot facility incorporates two processes—a bulk separation process that separates shredder residues and a fully continuous plastics separation system that selectively recovers specific plastics from the mixed plastics concentrates produced by the bulk separation process.

Argonne previously developed a process for recycling the polyurethane foams that are recoverable from shredder residues. This process is being demonstrated on a commercial scale in Europe.

Argonne's vehicle-recycling research is funded by the Office of FreedomCAR and Vehicle Technologies Program in DOE's Office of Energy Efficiency and Renewable Energy. ❖

Utilities seek nuclear plant early site permits

Three electric utility companies—Dominion, Entergy, and Exelon—have submitted Early Site Permit (ESP) applications to the Nuclear Regulatory Commission (NRC) for early approval of sites for potential new nuclear plants. The applications were prepared in cooperation with the Department of Energy (DOE) as part of the Nuclear Power 2010 program.

Nuclear Power 2010 is a DOE-industry cost-shared initiative aimed at reducing the regulatory, technical, and institutional risks associated with building new nuclear power plants. The program goal is to achieve an industry decision by 2005 to build at least one new advanced nuclear power plant in the 2010 timeframe. DOE's Office of Nuclear Energy, Science and Technology (NE) sponsors and manages the Federal Government's part of the program.

The three utilities are pursuing ESP applications for new plants at sites where they currently operate nuclear power plants. Dominion Energy is seeking approval of an ESP for a location at its North Anna site in Virginia; Entergy, for its Grand Gulf site in Mississippi; and Exelon, for its Clinton site in Illinois. NRC approval of all three ESP applications is expected during Fiscal Year 2006.

The ESP process is an untested licensing procedure that allows power-generating companies to obtain approval for the use of specific sites on which the companies may consider constructing a new nuclear power plant. Site suitability issues related to safety, environmental protection, and emergency preparedness are evaluated and approved prior to a commitment by any of the companies to build a new plant.

Approval of an ESP alone will not authorize construction of a new plant. If granted, the ESP would be valid for up to 20 years, allowing the power companies to "bank" the site for future use.

Additional information on the Nuclear Power 2010 program and other nuclear energy programs may be found at the NE website, **http://www.nuclear.gov**. ❖

'Green' fellowship set up to honor DOE's Mark Ginsberg


Mark Ginsberg

The U.S. Green Building Council (USGBC), one of the nation's foremost coalitions of leaders from across the building industry, recently recognized Mark Ginsberg, Board Member in the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EE), by establishing a Fellowship in his name. The Mark Ginsberg Fellowship Award is funded in perpetuity to support a Fellow at USGBC for a semester each year. The stated purpose is "to research an agreed upon sustainability issue that is of importance to the growth and development of the USGBC, mirroring the contributions, spirit, and integrity of Mark Ginsberg, for whom this Fellowship is permanently named."

The USGBC works to promote buildings that are environmentally responsible, profitable, and healthy places to live and work. Its member list of nearly 3,000 engineering firms, product manufacturers, environmental leaders, building industry organizations, building developers, financial industry leaders, and Federal, state and local government agencies represent the spectrum of leading green building advocates throughout the nation.

"Mark has spent his career working on energy issues and is one of the true forward-thinking pioneers of the Department in the field of design, energy use, and construction," Rick Fedrizzi, Co-Founder, USGBC, said. Prior to his current EE Board position, Ginsberg led a comprehensive set of programs for DOE to make buildings, equipment, and appliances more energy efficient; advanced state, community and low income energy programs; and was instrumental in the progress of high efficiency research and development, building and codes, and appliance standards. He also directed the Federal Energy Management Program and was a prime motivator of the Greening of the White House. Prior to joining DOE in 1991, Ginsberg was Director of the Arizona Energy Office. He has served on numerous energy boards. ❖

Hanford buried TRU waste retrieval underway

Retrieval of suspect transuranic (TRU) waste from the low-level burial grounds at the Department of Energy's (DOE) Hanford Site is in progress. The start of operations by DOE's Richland Operations Office and contractor Fluor Hanford beat by weeks the first deadline under a waste cleanup agreement between DOE and Washington State.

Workers will retrieve about 6,000 drums from the burial grounds in the coming year. In all, about 38,000 containers (76,000 drum equivalents) in various shapes and stages of integrity will be exhumed. Transuranic waste ultimately will be shipped to the Department's Waste Isolation Pilot Plant (WIPP) in New Mexico for disposal; low-level and mixed low-level waste will be disposed of in appropriate facilities at Hanford.

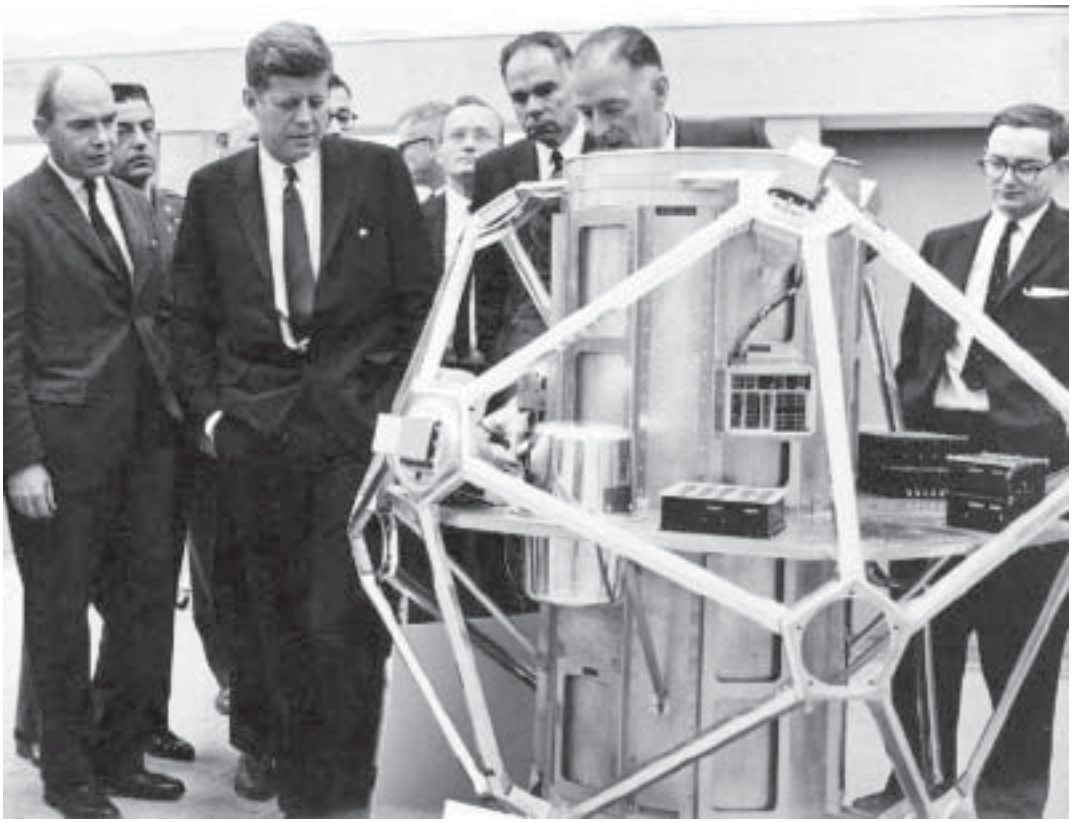
"We are starting this campaign with the confidence that it's not only reducing risk to the environment, but also is done in a way that is safe to our workers and in close partnership with our state and Federal regulators," Keith A. Klein, Manager, Richland Operations Office, said. "We're acting now before these drums can further degrade, become harder to retrieve, and affect the environment."


The front portion of buried drums containing waste is exposed in a trench at the Hanford Site.

At the same time waste is coming out of the ground, DOE and Fluor Hanford also are increasing Hanford's capabilities for inspecting and processing transuranic waste for disposal by expanding the capabilities of Hanford's Waste Receiving and Processing Facility. The operating staff has been increased to boost production and additional equipment will accelerate the preparation of waste for shipment to WIPP. About 1,800 drums of transuranic waste stored in Hanford's warehouses have been shipped to the New Mexico disposal facility since 2000.

"With our number of shipments on a steep incline, we're going to process most of the current backlog of stored transuranic waste to ship by 2005," Klein said. "Beyond its importance in protecting the environment, pulling this waste out of the ground will enable us to keep that shipping momentum going well into the next decade." ❖

Nuclear detonation monitoring program milestones observed



President John F. Kennedy and Vice President Lyndon B. Johnson examine the early Vela Satellite at Sandia Laboratory in 1963. Standing behind Johnson, at left, is Glenn T. Seaborg, Chairman, Atomic Energy Commission.

In December 2003, Department of Energy (DOE) employees and visitors were treated to a bit of history with an exhibit in Headquarters' Forrestal Building lobby sponsored by the Office of Nonproliferation Research and Engineering (NA-22) in DOE's National Nuclear Security Administration (NNSA). The exhibit marked the 40th anniversary of the first launch of a Vela Nuclear Detonation Detection satellite and the 15th anniversary of the Joint Verification Experiment (JVE), important milestones in the research and development (R&D) program for nonproliferation and treaty verification.

Vela was the first satellite component of the United States nuclear explosion detection program. The first pair of monitoring satellites was launched Oct. 16, 1963, three days after the signing of the Limited Test Ban Treaty. The Air Force, National Aeronautics and Space Administration, and the Atomic Energy Commission (AEC), a DOE predecessor agency, jointly sponsored this successful project that relied on research and instrument development by AEC's Los Alamos Scientific Laboratory and Sandia Laboratory. Both facilities are now DOE national laboratories.

As a series, the Vela satellites worked exceptionally well, "seeing" every above-ground test within their field of view and establishing an important benchmark for monitoring technology. A legacy of the program was the science done with the Vela constellation. It was instrumental in starting the field of gamma ray astrophysics and provided a major contribution to our understanding of the near-earth space environment.

In the 1970's, the space-based nuclear detection mission was taken over by the Defense Support Program system satellites; and in the late 1980's, included the Navstar Global Positioning System satellites. In 1984, the last Advanced Vela satellite, launched in 1969, was intentionally shut down. The sensor technologies first developed for Vela continue to be improved upon today and deployed in more advanced satellites.

In 1988, for the first time in the history of the Cold War, scientific teams from the U.S. and the Soviet Union conducted nuclear detonation measurements at each other's nuclear testing sites. The U.S. portion of the Joint Verification Experiment was conducted Aug. 17, 1988, at the Nevada Test Site; and the Soviet portion, Sept. 14, 1988, at the Semipalatinsk Test Site. Scientists from DOE's Lawrence Livermore and Los Alamos National Laboratories participated in these experiments.

The success of the JVE allowed a verification protocol to be completed for the Threshold Test Ban Treaty (1974), leading to its ratification in 1990 by the U.S. Congress. The JVE was the first direct cooperation between scientists at DOE laboratories and corresponding scientific institutes in the former Soviet Union and was the forerunner of the U.S.-Russian cooperation carried on today in other NNSA nonproliferation activities and programs.

NA-22, through DOE's national laboratories, continues to support long-term R&D needed to make these programs successful. This includes applied R&D, testing, and evaluation to produce technologies that lead to prototype demonstrations and resultant detection systems, strengthening the U.S. response to current and projected threats to national security. ❖

Pantex celebrates finish of W79 weapons dismantlement

The Department of Energy's Pantex Plant, a National Nuclear Security Administration (NNSA) facility, recently completed dismantlement operations of the W79 weapons program, which was the last nuclear artillery shell in the United States arsenal. The W79 artillery shell was placed into service in 1981 and has been in dismantlement operations at Pantex since 1998.

"Eliminating the last nuclear artillery warhead marks the end of an era in U.S. defense policy that included ground-launched battlefield nuclear weapons," Under Secretary of Energy for Nuclear Security and NNSA Adminstrator Linton Brooks said. "I congratulate our employees at Pantex who were involved in this piece of history."

More than 100 Pantex employees and hundreds of other technicians and engineers were involved with the W79 during assembly, evaluation, and dismantlement activities over the years. In the photograph, (l-r) Dan Glenn, Manager, NNSA Pantex Site Office, discusses the work with Brig. Gen. Ronald Haeckel, Associate Deputy Administrator for Defense Programs, NNSA, and Mike Mallory, President and General Manager, BWXT Pantex. ❖

Program focuses on American Indian, disability awareness

On Nov. 19, 2003, the Department of Energy's (DOE) Office of Economic Impact and Diversity (ED) presented the Fourth Quarter Special Emphasis Program at DOE Headquarters in recognition of National American Indian Heritage Month and National Disability Employment Awareness Month. The program was presented in cooperation with the Department's Native American Indian Heritage and Disability Awareness Task Forces.

The event saluted Native American programs conducted by DOE's Ohio Field Office and featured remarks by Michael Jordan, Special Emphasis Program Coordinator, DOE-Ohio, and Joe Schomaker, cultural resource specialist and Native American anthropologist, Fluor Fernald. Other remarks were given by Steve Mintz, Head of DOE's Disability Awareness Task Force, and Theresa Alvillar Speake, Director, ED, who spoke on behalf of Secretary of Energy Spencer Abraham.

Highlights of the program were the performances of award-winning, 15-year-old Native American concert pianist Connor Chee, who has played at Carnegie Hall, and Native American flutist Jim Morehouse, at left. ❖

Fermilab receives national safety award

The National Safety Council recently presented a "Perfect Record" award to the Department of Energy's (DOE) Fermi National Accelerator Laboratory (Fermilab) for completing 12 continuous months without a lost-time injury. The award also commends Fermilab employees and subcontractors for working 4,750,000 hours without a lost-time injury.

DOE Fermilab Area Office Manager Jane Monhart and Fermilab Director Michael Witherell accepted the award on behalf of the laboratory. "This is an achievement to be proud of," Monhart said. "We are very pleased to receive the award, but we are even more pleased that, for an entire year, everyone who worked at Fermilab was able to work safely and return home without injury."

In the photograph, Witherell (left) and Monhart display the "Perfect Record" award presented to Fermilab. ❖

INEEL firefighters stand out in World Challenge

The Fire Department at the Department of Energy's Idaho National Engineering and Environmental Laboratory participated in the Firefighter Combat Challenge 12 in Ottawa, Canada, in November 2003. The five-member team consisted of (l-r) Garth Barrow, Kevin Voyles, Bill Briggs, Paul Schell, and Lane Packer.

The team boasts a world record holder in the competition's obstacle course. Firefighter Voyles set a world mark of 1 minute, 30.69 seconds in the age 40-and-over division. Briggs finished fifth with a time of 2:18:78 in the age 50-and-over division. The team placed 29th in the challenge.

The competition involves two-person firefighter teams in complete fire-fighting gear performing a series of five tasks—ascending a five-story tower, hoisting, chopping, dragging hoses, and rescuing a life-size 175-pound victim—as they race against themselves, their opponents, and the clock. About 700 firefighters from 131 departments represented 31 states, seven Canadian provinces, England, Germany, and Italy. ❖

Excavation starts on Pit 9 waste retrieval demo

Workers with the Idaho Completion Project at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) began operations at the Glovebox Excavator Method (GEM) facility Dec. 12, 2003, four months ahead of schedule. The GEM project will demonstrate buried waste retrieval at Pit 9, which contains mixed transuranic waste generated by the Rocky Flats Plant and shipped to INEEL from 1967 through 1969.

Workers do not come into direct contact with the waste. As seen at right, workers operate a backhoe with the arm and scoop bucket extended and isolated inside an enclosed excavation area to remove overburden soil. The backhoe will retrieve 75 to 100 cubic meters of buried waste and soils from the exposed portion of the pit. The contaminated soil and debris will be processed through a glovebox, scanned to determine radioactivity levels, sorted, sampled, and repackaged for eventual disposal outside Idaho. Information collected during retrieval will help evaluate final remediation alternatives for the buried waste. ❖

Oak Ridge reindustrialization earns Phoenix Award

The Department of Energy, the Community Reuse Organization of East Tennessee (CROET), and the Bechtel Jacobs Reindustrialization team have received the Phoenix Award for their efforts to give the former K-25 Gaseous Diffusion Plant a new life as the East Tennessee Technology Park (ETTP). The Phoenix Award honors individuals and groups who solve the environmental challenge of transforming abandoned industrial areas into productive new uses.

An award winner is selected from each of the Environmental Protection Agency's (EPA) 10 regions. The Oak Ridge team is the EPA Region 4 recipient. In the photograph, (l-r) Jessie Roberson, DOE Assistant Secretary for Environmental Management; Congressman Zach Wamp; and Gerald Boyd, Manager, DOE Oak Ridge Operations Office, display the award.

The Oak Ridge team has taken the next step forward in the vision of ETTP as a private sector industrial park by transferring properties to CROET and the private sector. Complete turnover of reusable facilities is expected by 2008. ❖

KC Plant's PIRATE ready to set sail

Monitor, analyze, and communicate a real-time threat situation—that's what the Better Environment to Stop Terror (BEST) Portable Image Recognition and Analysis Transducer Equipment (PIRATE) accomplishes. This unique system was developed by the Department of Energy's Kansas City Plant, a National Nuclear Security Administration facility.

The PIRATE, a compact, secure wireless communications platform and hazard analysis system provides standard computer interfaces for custom and commercial off-the-shelf sensors for threat investigation, secure encrypted communications, a global positioning sensor, graphical user interface, graphical interface, image recognition software, and a self-contained or remote power supply. The system can be deployed in a stand-alone configuration where hazards can be diagnosed on the spot, or placed in remote locations requiring the collected data to be transmitted to regional or national command centers for analysis.

PIRATE collects data through an Image Recording and Analysis Method and transmits directly to the control unit. The control unit collects and analyzes the data and communicates the information via an encrypted, wireless network to the Open Architecture Transmission and Supervision unit for local analysis. Local site personnel may then determine an appropriate course of action or may transmit the collected data via cellular or satellite telephone to a networked location, anywhere in the world, for further analysis. This enhanced system is more accurate, user friendly, and delivers real-time data to first responders, military, scientists/laboratories, law enforcement, and government agencies.

In the photograph, the Kansas City Police Department's robot carries the PIRATE device during a demonstration at the Kansas City Plant. A scenario was created for the demonstration where an individual was handcuffed to the steering wheel of a car and a suspicious package with a substance seeping out of it was present under the vehicle.

The Kansas City Plant is committed to using cutting-edge technologies and scientific expertise to make America safer. PIRATE is the beginning of the facility's quest to leverage its existing resources into technological tools that help protect our homeland. First responders, the private sector, and the Federal laboratories will be important partners in this endeavor. ❖

Savannah River reports cleanup progress

In November 2003, the Department of Energy's (DOE) Savannah River Operations Office gave Westinghouse Savannah River Company approval to deactivate the F Canyon complex. For about a year, F Area employees have been working to close old, obsolete systems that have not been used in decades, empty and flush vessels, demolish excess facilities, and wind up scheduled operations. Only work relating to facility suspension and layup could be done until a deactivation order was received.

Savannah River reports progress in several projects:

- Demolition work in F Area is going full speed, with 12 buildings—encompassing about 24,000 square feet—already on the ground, with more planned in the future. Nineteen buildings are planned to come down in Fiscal Year (FY) 2004. The schedule calls for 58 F Area buildings to be demolished by the end of FY 2006.
- FB Line completed receiving shipments of plutonium oxide from the International Atomic Energy Agency (IAEA) in Vienna, Austria. The IAEA materials being returned were United States-origin samples that were used for treaty purposes by the IAEA laboratory.
- FB Line's Packaging and Stabilization Project reached a significant milestone with the successful startup of Phase II, which includes two new high-fire furnaces necessary when packaging oxides. Phase I included a new outer can welder to weld the 3013 containers of metals for nuclear material storage. With the new welder, two plutonium metal storage cans are able to be welded in a 3013 outer can, which is designed for a 50-year storage life—the DOE standard.
- The Savannah River Site recently sent its 200th waste shipment to the Department's Waste Isolation Pilot Plant (WIPP) in New Mexico. In reaching this milestone, the site also reached a new peak in the rate that it is shipping transuranic waste to WIPP. The site, which began shipping its waste in 2001, is now making 24 shipments per month, compared to the one shipment per month it was making two years ago. At this rate, the site expects to finish shipping the remaining currently stored waste by 2006, compared to the original target of 2034. ❖

Research DIGEST

Scientists at the Department of Energy's **National Energy Technology Laboratory** (NETL) have discovered that carbon dioxide can be permanently trapped inside the pores of nanotubes, in essence, fabricating nanometer-sized gas cylinders of carbon dioxide. Small amounts of carbon dioxide were found to be trapped inside nanotubes after partially oxidized samples were heated to a moderate temperature. Oxygen containing functionalities which decorate the pore openings in these samples were responsible for generating the carbon dioxide. The NETL scientists believe structural rearrangements of these functionalities occurring after they produce carbon dioxide play a role in locking the carbon dioxide inside the nanotubes and their interstitial spaces. The results are helping researchers to better understand how nanostructured carbons can be used for sensor, membrane, and gas storage applications (Christopher Matranga, 412-386-4114).

A major milestone in astronomical history recently took place at the W.M. Keck Observatory in Hawaii when scientists for the first time used a laser to create an artificial guide star on the Keck II 10-meter telescope that allowed the telescope's adaptive optics system to correct the atmospheric blurring of an actual, nearby star. Laser guide stars have been used on smaller telescopes, but this is their first successful use on the current generation of the world's largest telescopes. The Department of Energy's **Lawrence Livermore National Laboratory** (LLNL) began working with the Keck Observatory in 1994 to develop an artificial guide star system. In January 2001, the Keck and LLNL team celebrated the successful commissioning and demonstration of the Keck system. It took another two years of sophisticated research and design before the laser system could be integrated into the Keck adaptive optics systems. (Gordon Yano, 925-423-3117)

A team of engineers and biophysicists at the Department of Energy's **Lawrence Berkeley National Laboratory** have developed a scanning robot to keep pace with the deluge of high-resolution images produced by today's electron microscopy research. An inquiry into the molecular structure of a cell membrane, for example, may yield hundreds of images, each of which must be digitized into a database before being analyzed. Currently, the only way to load microscopy film into a scanner is by hand, a slow approach in which one image is scanned roughly every 10 minutes. The scanning robot has a suction-cupped arm that grabs the top image from a stack of microscopy films. It places the film into a custom-designed plate that holds the film in a flat plane without creating optical fringes. The plate is then fed into the scanner. Once the scan is complete, the film emerges and the motorized arm transports it to the "done" stack. (Dan Krotz, 510-486-4019) ❖

Project will boost supply of medical isotopes

As part of an initiative to clean up Cold War legacy sites, the Department of Energy (DOE) has begun a project to down blend enriched uranium-233 stored at its Oak Ridge National Laboratory (ORNL) and then extract important medical isotopes that show great promise in treating cancers. "That we can fulfill this mission while producing valuable new tools in the fight against cancer is an exciting and unique opportunity," Secretary of Energy Spencer Abraham said.

DOE's Office of Nuclear Energy, Science and Technology (NE) awarded the prime contract for the project to Isotek Systems, Oak Ridge, Tenn., following a competitive bidding process. Isotek is teaming with DOE's Pacific Northwest National Laboratory and Theragenics, Inc., to produce and deliver the medical isotopes. The total estimated contract cost is approximately $128 million over an estimated nine-year period.

For more than 30 years, ORNL has stored more than 1,200 containers of enriched uranium-233, originally produced at DOE's former defense nuclear materials production plants. This material requires expensive security, safety, and environmental controls. Processing the material, rather than continuing to store it, will eliminate a significant future financial liability for the Department and could ultimately save U.S. taxpayers $265 million over the life of the project.

The contract provides for extraction of thorium-229 during the down blending process. The thorium will then be used to extract actinium-225 and supply its daughter product, bismuth-213, for ongoing cancer research, including clinical trials for treatment of leukemia. These medical isotopes also are being explored for use in treatment of other serious cancers of the lungs, pancreas, and kidneys.

Additional information on DOE's isotope program is available on the NE website at **http://www.nuclear.gov**. ❖

Oak Ridge renames road to Science.gov Way

The Department of Energy (DOE), with its record of frontier scientific research, and the City of Oak Ridge, Tenn., joined forces in a fitting way on Nov. 7, 2003. Local Oak Ridge officials and several dignitaries gathered for the renaming of the south side of Athens Road to Science.gov Way, commemorating the Web portal "science.gov." The portal, considered the gateway to the nation's science research, is hosted by DOE's Office of Scientific and Technical Information (OSTI), which now has a new address, #1 Science.gov Way.

"This street renaming ceremony is a wonderful way to highlight Oak Ridge's transformation from the 'secret city' of the 1940's into the hub it has become today for information about all Federal Government research and development results," Secretary of Energy Spencer Abraham said. "The government partnership that created science.gov is making our nation's science knowledge base more openly available than ever before."

James Decker, Deputy Director of DOE's Office of Science, was the featured speaker at the gateway celebration. "I applaud the men and women here at OSTI for pushing that technology and rapidly adopting and assimilating its advance," Decker said. "As we make research results available through science.gov, we are also providing for the development of the next generation of scientists who will continue to carry forth the great science tradition embodied throughout American history."

Mimi Holtzclaw's fifth grade class at Norwood Elementary School celebrates with DOE officials the renaming of the street to Science.gov Way. Behind the students are (l-r) James Decker, Deputy Director, Office of Science, and Walt Warnick, Director, Office of Scientific and Technical Information.

"I venture to say that we are witnessing today the first .gov road in America," Walt Warnick, OSTI Director, said. He called science.gov "a portal into the world's largest collection of science information. This portal for the nation's science could not have been opened without the hard work of many, many people."

OSTI partners with 11 other Federal agencies to make much of the Federal Government's science information accessible. This vast national resource, most of it managed electronically, is available to industry, academia, and the general public through the Internet. From science.gov, users can find over 1,700 government information resources about science, including technical reports, journal citations, databases, Federal Web sites, and fact sheets. ❖

NEW Publications

The U.S. Climate Change Technology Program (CCTP), managed by the Department of Energy, has released two reports: ***Research and Current Activities*** (DOE/PI-0001) and ***Technology Options for the Near and Long Term*** (DOE/PI-0002). The documents present a portfolio of Federal research and development investments in climate change technology development and highlight President Bush's initiatives and other developments related to climate change. The reports are available at the CCTP website, **http://www.climatetechnology.gov**. There are direct links to the reports on the main page and also by clicking on "Library."

The Office of Fossil Energy: Striving for Environment, Security, Safety and Health (ESS&H) Excellence showcases the Office of Fossil Energy's (FE) successes in performing its mission in a manner that is protective of its workers, the public, and the environment. The report summarizes the ESS&H Fiscal Year (FY) 2003 performance record for FE Headquarters and field sites and highlights opportunities for improvement in FY 2004. Throughout FE, the number of lost workdays due to injuries throughout FE decreased by nearly 70 percent, injury costs were down by over 50 percent, and vehicle accidents decreased by nearly 60 percent. The report is available at **http://esh.fe.doe.gov** or contact Craig Zamuda, 202-586-6367.

Office of Inspector General (IG) reports: ***Federal Energy Regulatory Commission's Performance Management*** (DOE/IG-0627); ***Internal Controls Over Classified Computers and Classified Removable Media at the Lawrence Livermore National Laboratory*** (DOE/IG-0628); ***Central Office Expenses for the Thomas Jefferson National Accelerator Facility*** (DOE/IG-0629). 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**. ❖

Education NOTES

Budding mathematicians from local New Mexico schools competed Nov. 15, 2003, in the fifth annual "Go Figure" math contest sponsored by the Department of Energy's **Los Alamos National Laboratory** and **Sandia National Laboratories**. The contest was open to students in grades 7 through 12. The goal of the competition was to identify young people with talent in mathematics. Problems for the contest ranged from easy to challenging, and some problems were designed to test the contestants' ingenuity and ability to apply what they have learned. A prize was awarded in each grade, and the top 10 percent also received individual letters of congratulations.

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The Westinghouse Savannah River Company (WSRC) team at the Department of Energy's **Savannah River Site** in partnership with the Tri-County Workforce Readiness Partnership, Allendale, S.C., has received national recognition for the WSRC School-To-Work Internship Program. The partners received the 2003 Exemplary Worksite Learning Award sponsored by The Caterpillar Inc. at a Nashville, Tenn., awards ceremony. The Savannah River program links internships and employment opportunities to school curricula and provides students with marketable skills to make a successful transition from the school environment to the workplace. Since 1995, 203 students have participated in or are currently participating in the program. Statistics show that 95 percent of the students completing work-based learning at WSRC continue their studies at technical schools and colleges.

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William Magwood, Director of the Department of Energy's (DOE) **Office of Nuclear Energy, Science and Technology** gave high school students in Pittsburgh, Pa., a glimpse into the future on Dec. 8, 2003, by demonstrating hydrogen fuel technologies. Magwood is a Pittsburgh native and graduate of Carnegie Mellon University and the University of Pittsburgh. The students learned about hydrogen and fuel cells through a series of experiments that taught them how to build model fuel cell cars. DOE is encouraging the study of hydrogen and fuel cell technologies in schools to inspire the next generation of scientists and engineers needed to bring the vision of a hydrogen economy to reality. ❖

Eileen Jen, Ridgewood, N.J., and Jashan Lalwani, Paramus, N.J., look at microorganisms at the Department of Energy's Brookhaven National Laboratory (BNL). About 120 gifted and talented middle school students and their parents recently attended a Saturday program, "Explorations in Biotechnology and Bioengineering," hosted by BNL and sponsored by the Johns Hopkins University Center for Talented Youth. The students, who came from Connecticut, New Jersey, New York, Pennsylvania, Virginia, and Vermont, engaged in hands-on activities to explore the biological sciences with instruction from BNL researchers. In addition, both parents and students learned about some of the forefront research in biology and related fields that is ongoing at BNL. The goal of the Johns Hopkins University Science and Technology Series is to interest academically gifted and talented youth in science and mathematics careers. ❖

COMING Events

April

29-May 3 14th Annual Department of Energy (DOE) National Science Bowl®, Chevy Chase, Md. Sponsored by DOE and others; managed by DOE's Office of Science (SC). Winning teams from 66 regional tournaments being held across the United States at DOE sites, other Federal agencies, and educational institutions from January through March 2004 will qualify to participate in the national finals. The DOE Headquarters regional competition for schools in Washington, D.C. and Maryland will be held **Feb. 28, 2004**. Volunteers are needed to assist with the regional competition and national finals. If you have questions or to volunteer, contact Sue Ellen Walbridge, SC-1, 202-586-7231, or sue-ellen.walbridge@science.doe.gov. Additional information is available on the Science Bowl website, **http://www.scied.science.doe.gov**. ❖

People IN ENERGY

Ruth Bennett has been named Chief Operating Officer of the Department of Energy's Bonneville Power Administration (BPA), a position she has held in an acting capacity since November 2002. Her duties include coordinating and supervising BPA's four senior vice presidents responsible for the power and transmission business lines, employee and business resources, and general counsel. Bennett has held several positions since joining BPA in 1973, including Manager of Transmission Sales and Acting Vice President for Power Marketing.

Several Department of Energy laboratory scientists have been elected Fellows of the American Association for the Advancement of Science. The honorees from Argonne National Laboratory are **Murray Gibson**, Director, Advanced Photon Source; and **Rick Stevens**, Director, and **Ian Foster**, Associate Director, Mathematics and Computer Science Division. Also named are **Thomas Kirk**, Associate Laboratory Director for High Energy and Nuclear Physics, Brookhaven National Laboratory, and **Arthur Nozik**, Senior Research Fellow, National Renewable Energy Laboratory.

As part of its mentor-protégé agreement, BWXT Y-12 is providing a loaned executive to Tennessee State University to lead the cooperative efforts between the company and the university. **Benjamin Thomas**, Project Manager, Technical Computing, will provide a technology/management bridge between the two institutions. Thomas may serve in the loaned executive capacity for up to five years.

The Department of Energy's National Renewable Energy Laboratory (NREL) has presented its 2003 Paul Rappaport Renewable Energy and Energy Efficiency Award to **Ajeet Rohatgi**, founding director of the University Center of Excellence for Photovoltaics Research and Education at the Georgia Institute of Technology. NREL initiated the award last year in celebration of the laboratory's 25th anniversary.

James R. Powell, Director of the Department of Energy's Atlanta Regional Office, is the recipient of the 2003 Vincent D. George "Light the Way" Award for his "steadfast promotion of energy efficient and renewable energy technologies." The award was presented to Powell by Victor Somme III, Director, U.S. Virgin Islands Energy Office, during ceremonies on St. Croix to mark the annual observance of Energy Awareness Month.

Arthur Brooks, an engineer at the Department of Energy's Princeton Plasma Physics Laboratory, recently was named the 2003 PPPL Distinguished Engineering Fellow. Brooks was recognized for his accomplishments in the areas of electromagnetic, thermal-hydraulic, and structural analysis for numerous experimental devices and design studies, including the National Spherical Torus Experiment, and for pioneering the development of electromagnetic codes that were pivotal in the design of the National Compact Stellarator Experiment.

Fourteen physicists at the Department of Energy's Lawrence Livermore National Laboratory (LLNL) and Los Alamos National Laboratory (LANL) have been named Fellows of the American Physical Society. At LLNL: **John Castor**, **Giula Galli**, **Stephen Hatchett**, **Richard Klein**, **Christian Mailhiot**, and **Erich Ormand**. At LANL: **Alexander Vasilievich Balatsky**, **Gary Dean Doolen**, **Francis Harvey Harlow**, **Andrew Hime**, **Victor I. Klimov**, **William C. Louis**, **David G. Madland**, and **Peter Moller**.

Hussein S. Khalil has been appointed Director of the Nuclear Engineering Division at the Department of Energy's Argonne National Laboratory (ANL). A researcher at ANL since 1983, Khalil became a senior scientist in 2001 and most recently served as Deputy Director of the Nuclear Engineering Division.

Lynn Boatner, a UT-Battelle corporate fellow and researcher in the Condensed Matter Sciences Division at the Department of Energy's Oak Ridge National Laboratory, has received the American Association for Crystal Growth Award, the highest honor presented by the association and given only once every three years. Boatner was honored for his "novel research in the area of crystal growth that has advanced the application of single crystalline materials."

Thomas Schlagel has been named Director of the Information Technology Division at the Department of Energy's Brookhaven National Laboratory (BNL). Most recently, Schlagel was Director of Systems for Jupiter Media Metrix in Melville, Long Island, New York. Previously, he served in several capacities at BNL, including Manager of Scientific Computing Support.

Scientist **Eric Loewen** of the Department of Energy's (DOE) Idaho National Engineering and Environmental Laboratory recently received an Outstanding Mentor Award signed by Secretary of Energy Spencer Abraham. DOE's Office of Science presents the award to national laboratory employees who exceed expectations for mentoring interns in their fields of study. ❖

Milestones

YEARS OF SERVICE
January 2004
Headquarters

Chief Information Officer – Ronald L. Marchitelli (35 years), Linda L. Painter (35). **EIA** – Kathleen Cavanaugh (30), Barbara A. Rucker (25), Nanno V. Smith (25). **Energy Efficiency & Renewable Energy** – Kathleen A. Weiseman (30), Roger D. Meyer (25). **Environmental Management** – Wilma K. Rash (35), Randall L. Kaltreider (25).

FERC – Bruce L. Birchman (40), Sylvia Brown (35), Mark E. Gratchen (30), William G. McDermott, Jr. (30), Victor I. Coulter (25), Peggy M. Ford (25), Leola R. Funes (25), Joyce L. Hawkins (25), Alan D. Mitchnick (25), Carol L. Niehaus (25), Robert E. Pease (25). **General Counsel** – I. Avrum Fingeret (30), Diane J. Stubbs (30). **Independent Oversight & Performance Assurance** – Ching-San Huang (25).

Management, Budget & Evaluation – Douglas J. Bielan (35), Barbara A. Farrington (35), Verlette G. Moore (35), Lana K. Rand (35), David E. Waters (35), Janice L. Meadows (30), Amos Street, Jr. (30), Judith I. Hecht (25). **NNSA** – James P. Mosquera (25), Gordon Y. Tanaka (25). **Policy & International** – Robert I. Benny (30), Edward S. Rossi, Jr. (30). **Radioactive Waste** – Robert A. Levich (30).

Science – William H. Kirchhoff (40), Michael Roberts (25).

Field
Albany Research Center – Thomas L. Ochs (25). **Bonneville Power** – William A. Burger (40), Douglas C. Dewald (40), Gordon W. Alexander (35), Michael C. Vogel (35), Jack T. Wiles (35), Thomas W. Wooldridge (35), Jose R. Aguilar (30), Brian E. Arden (30), Mark S. Bond (30), Ross A. Crozier (30), Sharron K. Everett (30), David J. Hart (30), Anne C. Hooper (30), Thomas S. Jackson (30), Janet L. Stevens (30), William H. Blazer (25), Karen L. Conte (25), Norman E. Hayes (25), Bettyjo Laplante (25), Robyn L. Mackay (25), David D. Potter (25), Ronald D. Roth (25), George A. Schwartz (25), Connie R. Whitlow (25).

Chicago – Dorothy A. Kerr (45), Jean C. Black (35), Patricia J. Schuneman (25). **Golden** – Nelda J. Beck (30). **Idaho** – Carl R. Robertson (35), Roger K. Corman (25). **Livermore Site/NNSA** – Robert D. Hilliard (30). **NETL** – E. Patrick Fisher (40), Ethel M. Burse (30), Cheryl A. Lee (25). **Nevada** – Runore C. Wycoff (25). **NNSA Service Center** – Anthony V. Neglia (40), Virgil P. Copp (30), Don W. Harvey (30), Luis C. Martinez (30), Jeri A. Simmons (30).

Oak Ridge – Philip I. Stumbo (35), Larry W. Clark (30), Sherman R. Martin, Jr. (30), Phillip A. Carpenter (25), Harvey M. Heckman, Jr. (25), Wendell D. Seaborg (25). **Ohio** – Jeffrey J. Vaughn (30), Beverly J. Foley (25). **Pantex Site/NNSA** – Johnnie F. Guelker (25). **Richland** – Mary L. Goldie (30). **Rocky Flats/NNSA** – Robert Goldsmith (25). **Sandia Site/NNSA** – Ivan J. Rose (35).

Savannah River – Alfred F. Endler, Jr. (30), John M. Reynolds II (30), John L. Merrick, Jr. (25). **Schenectady Naval Reactors/NNSA** – Michael B. Bishop (35). **Western Area Power** – Samuel F. Mason IV (35), Audry D. Ball (30), Billy J. Clatterbuck (30), James D. Keselburg (30), Elizabeth M. Lynn (30), Edward R. Wagner (30), Marc R. Kirshman (25), William F. Neu (25).

RETIREMENTS
November 2003
Headquarters

Inspector General – Terry L. Brendlinger (32 years). **NNSA** – Gary K. Goldberg (31), Jimmy O. Hadaway (28).

Field
Bonneville Power – Gerald D. Downing (30). **Oak Ridge** – Frank C. Juan (29). **Richland** – D. Clark Gibbs (17). **Southwestern Power** – Mary J. Harter (29), Larry L. Woolverton (33). **Western Area Power** – James F. Marlin (32). ❖

NEW ON THE Internet

Climate VISION website

The Department of Energy (DOE) has launched the official website of the Climate VISION (Voluntary Innovative Sector Initiatives: Opportunities Now) program, **http://www.climatevision.gov**. Climate VISION is the Administration's public-private partnership to pursue cost-effective initiatives to reduce greenhouse gas intensity. DOE hosted the Climate VISION roll-out on Feb. 12, 2003 (*DOE This Month*, March 2003). Other Federal agencies participating in the program include the Departments of Agriculture, the Interior, and Transportation, and the Environmental Protection Agency. Associations representing 12 industry sectors and the Business Roundtable are program partners with the Federal Government. The website is a greenhouse gas information source and allows the public and industry partners to track the progress in meeting greenhouse gas intensity reduction commitments. ❖

AROUND DOE

Draft RFP for Idaho lab contracts to be issued

The Department of Energy (DOE) plans to issue for public comment in early February 2004 the draft Requests for Proposals for two new contracts for its Idaho laboratory complex. DOE announced in April 2003 that separate contracts will be competed and awarded to implement the plan to revitalize the site's nuclear energy mission, accelerate environmental cleanup, and change the name to Idaho National Laboratory (*DOE This Month*, May 2003).

"As the Department moves forward with defining the scope and new mission of the Idaho site, it is vital that our nuclear energy goals and environmental management goals are clearly defined in the requests for proposals that we will ask companies to bid on," Under Secretary of Energy Robert Card said. Information presented at an earlier pre-bid conference is still valid.

Both contracts, one for the Office of Nuclear Energy, Science and Technology (NE) and the other for the Office of Environmental Management, will be administered through DOE's Idaho Operations Office. Overall management of the laboratory will remain with NE. The target turnover date for the contracts will now be Jan. 31, 2005. It is DOE's intent to maintain the current contract to coincide with that date.

PNNL developing urban resource planning model

King County, Wash., is home to the expansive Seattle metropolitan area. Researchers at the Department of Energy's Pacific Northwest National Laboratory (PNNL) are assisting the county's Department of Natural Resources and Parks by developing an integrated computational modeling system that simulates the potential impacts of urban activities, including population growth, on the area's watersheds, rivers, lakes, and estuaries.

When complete in 2005, the Integrated Water Resource Modeling System will enable King County planners to evaluate diverse scenarios such as drinking water withdrawal from urban lakes. The system will include models of water and energy resources and models to evaluate ecological and human health risks. The PNNL researchers hope to develop a system that can be applied in other municipalities wrestling with complex growth and natural resource management issues.

U.S., Russia implement oil spill prevention protocol

U.S. Ambassador to the Russian Federation Alexander R. Vershbow and Russian Deputy Energy Minister Oleg G. Gordeyev opened the first U.S.-Russian Energy Workshop on Oil Spill Prevention and Response in Moscow, Russia, Dec. 4, 2003. The workshop was the culmination of agreements signed by U.S. Secretary of Energy Spencer Abraham and Russian Minister of Energy Igor Yusufov to discuss mutual energy issues of interest and to implement the oil spill prevention and response agreement the two countries developed in 2003.

"Russia's interest in oil spill prevention and response and their growing participation in international oil markets make this workshop a vital tool in enhancing the world's energy security," Secretary Abraham said. "Even better, the workshop will allow us to protect the environment while guaranteeing continued production and use of oil and oil products."

An interagency working group comprised of the Departments of Commerce, Energy, and Transportation; the Environmental Protection Agency; and the U.S. Coast Guard will address and implement primary areas for future cooperation. The next workshop is scheduled for June 2004 in Trondheim, Norway, in conjunction with the "Interspill" international conference. ❖

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

Official Business