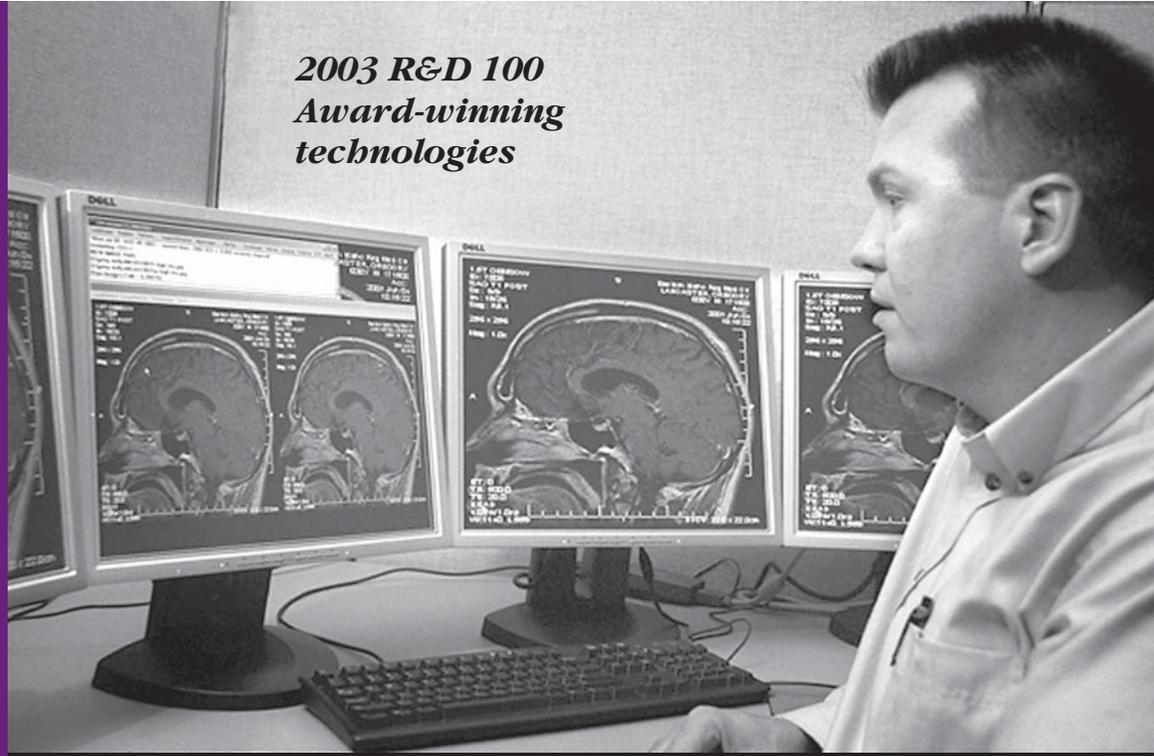


**Secretary
advances
energy
cooperation,
nonproliferation
on international
visits**

**Human genome
project leaders
receive
Secretary's
Gold Award**

**Silicon solar
cell turns 50**

*2003 R&D 100
Award-winning
technologies*



U.S. Department of Energy



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Inside

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Dr. Edward Teller, a giant figure of the 20th century, died Sept. 9, 2003, at age 95. The 1958 photograph at right shows Dr. Teller when he was Director of the Department of Energy's Lawrence Livermore National Laboratory.



A "New Yellow Bus," the product of a three-year collaboration that includes the Department of Energy's Idaho National Engineering and Environmental Laboratory, is turning heads and attracting attention.

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Department of Energy (DOE) aviation programs are winners at the Federal and DOE level, including Joseph Ginanni, Nevada Site Office (left), shown receiving the DOE Aviation Management Professional Award from Robert Jenkins, Director, DOE Office of Aviation Management.



On our cover

Department of Energy (DOE)-funded research won 35 of the R&D 100 Awards presented this year by *R&D Magazine* for the most outstanding technology developments with commercial potential.

Researchers at DOE's Idaho National Engineering and Environmental Laboratory developed the Change Detection System, software which aligns digital images to within a fraction of a pixel. Rapid flipping between two aligned images makes any difference appear as motion and reveals nearly invisible changes. In the top photograph, co-inventor Greg Lancaster examines imperceptible differences between the MRI scans. The program can be adapted for medical, surveillance, forensics, home security, and field research use.

Product Acoustic Signature System (PASS), developed by DOE's Pacific Northwest National Laboratory, is a handheld tool that enlists ultrasound pulses to assay the contents of sealed containers. In the bottom photograph, customs inspectors and international border agents receive training on using the PASS device.

For more on the R&D 100 Awards, see page 4. ❖

Secretary addresses IAEA, promotes energy and nonproliferation in four countries

In mid September 2003, Secretary of Energy Spencer Abraham traveled to four countries to discuss energy issues and nuclear nonproliferation. The trip included stops in Vienna, Austria; Berlin, Germany; Warsaw, Poland; and Moscow and St. Petersburg, Russia.

Austria, Germany

Secretary Abraham addressed the 47th General Conference of the International Atomic Energy Agency (IAEA) on Sept. 15 in Vienna, Austria. His remarks focused on nuclear nonproliferation and three areas where IAEA member states together can strengthen nonproliferation:

- safeguarding and physical protection of nuclear materials;
- preventing the trafficking of nuclear and radiological materials and technologies for weapons purposes; and
- improving the security of research reactors and facilities where nuclear and non-nuclear radiological material may be co-located.

“Together, we must build on the successes of the past and overcome the challenges of the present, so that our ability to enjoy the benefits of peaceful nuclear cooperation can be expanded and sustained into the future,” Secretary Abraham said.

That same day, Secretary Abraham and Republic of Korea Science and Technology Minister Park Ho-Koon signed a bilateral agreement to conduct joint research and development on advanced proliferation resistant nuclear fuel cycle technologies. On Sept. 16, Secretary Abraham and Chairman of the China Atomic Energy Authority Zhang Hua-zhu signed a Statement of Intent affirming their commitment to recent understandings reached by the two countries on the exchange of nonproliferation assurances required for exchanges of nuclear technology.

On Sept. 17, Secretary Abraham addressed European global climate policy experts at the American Academy in Berlin, Germany. He outlined



U.S. Secretary of Energy Spencer Abraham (left) and Polish President Alexander Kwasniewski met in Warsaw, Poland, Sept. 18, 2003.

the Bush Administration’s policies and goals for controlling the growth of greenhouse gas emissions and its efforts to develop new technologies to significantly reduce emissions of carbon dioxide from the transportation and energy sectors.

Poland, Russia

Secretary Abraham made his first visit to Warsaw, Poland, on Sept. 18. He met with Polish President Alexander Kwasniewski and other officials on energy matters of mutual interest.

In a Joint Steering Committee Meeting in Moscow, Russia, on Sept. 19, Secretary Abraham reaffirmed his support to continue existing Nuclear Cities Initiative (NCI) projects to completion even though the government-to-government agreement was set to expire on Sept. 22. To demonstrate his commitment, Secretary Abraham announced funding for a new NCI project, the creation of a \$9 million medical imaging center in the closed Russian city of Snezhinsk.

Secretary Abraham and Russian Minister of Atomic Energy Alexander Rumyantsev witnessed the signing of a protocol by Paul Longworth,

Deputy Administrator for Defense Nuclear Nonproliferation, National Nuclear Security Administration, and Igor Borvkov, First Deputy Minister of Minatom. The protocol developed a set of recommendations so that existing projects can continue under a provision in the expiring agreement.

Later that evening, Secretary Abraham addressed the Second Annual International Nonproliferation Conference, sponsored by the Carnegie Endowment. The first conference was held in November 2002 in Washington, D.C.

On Sept. 21, Secretary Abraham and U.S. Commerce Secretary Don Evans met with Russian President Vladimir Putin at his residence outside Moscow. Discussions focused on bilateral energy projects and the upcoming Second U.S.-Russia Commercial Energy Summit.

Secretary Abraham and Russian Minister of Energy Igor Yusufov joined with Secretary Evans and Russian Minister of Economic Development and Trade German Gref to open the summit in St. Petersburg on Sept. 22. Topics of discussion included the development of an oil pipeline in Murmansk and large Russian liquefied natural gas projects. During the Summit, Secretary Abraham and Minister Yusufov met to discuss energy issues and sign an oil response protocol that formalizes and implements the oil spill prevention and response agreement developed by both countries.

While in Russia, Secretary Abraham announced a nonproliferation success story. On Sept. 21, 14 kilograms of fresh Russian-origin highly enriched uranium (HEU) were returned from Romania to Russia under the Department of Energy-funded Russian Research Reactor Fuel Return Initiative.

Additional information on the trip and Secretary Abraham’s remarks at different events are available at <http://www.energy.gov>, click on “Press Room,” then click on “Press Releases” and “Speeches.” ❖

DOE-funded research wins 35 R&D 100 Awards

Researchers at Department of Energy (DOE) laboratories and companies with research funded by DOE have won 35 of the 100 awards given this year by *R&D Magazine* for the most outstanding technology developments with commercial potential. An independent panel of some 60 experts and editors of the magazine selected the winning technologies. The awards will be presented this month at a ceremony in Chicago, Ill.

“The range of these cutting-edge technologies demonstrates the breadth of expertise at our national laboratories,” Secretary Abraham said. “The accomplishments of these innovative researchers will benefit our entire nation.”

The DOE researchers winning the 2003 R&D 100 Awards work in 11 of the Department’s national laboratories. Eighteen of the awards are shared with businesses and universities; two of the awards are for research at companies funded by DOE.

Descriptions of the technologies are available on DOE’s Office of Science website at <http://www.science.doe.gov>. The complete list of 2003 R&D 100 Awards is available at <http://www.rdmag.com>. The winning DOE-funded technologies are:

Argonne National Laboratory

- Large-Area Ultrananocrystalline Diamond Film and Deposition System
- Scanning Confocal Electron Microscope
- Nanostructured Carbide Derived Carbon

Idaho National Engineering and Environmental Laboratory

- Change Detection System

Lawrence Berkeley National Laboratory (LBNL)

- EnergyPlus Building Simulation Program

Lawrence Livermore National Laboratory (LLNL)

- Lasershot Precision Metal Forming System
- Ion Beam Thin Film Planarization Process

- High-Average-Power Electro-Optic Q Switch

Los Alamos National Laboratory (LANL)

- Compositional Analysis by Raman-Integrated Spark Spectroscopy (CARISS)
- FIRETEC Wildfire Model
- FlashCT Scanning System
- Green Destiny
- PowerFactoRE
- Super-Thermite Electric Matches
- Flexible Superconducting Tape

LANL, LBNL

- Biological Aerosol Sentry and Information System (BASIS)

LBNL, LLNL, Sandia National Laboratories

- Extreme Ultraviolet Lithography Full-Field Step-Scan System

LLNL, Sandia

- MEMS-Based Adaptive Optics Phoropter

National Energy Technology Laboratory

- Sorbent-Based Mercury Control Technology

National Renewable Energy Laboratory

- High-Rate Vapor Transport Deposition

Oak Ridge National Laboratory

- Raman Integrated Tunable Sensor (RAMiTS)
- MicroTrapMS
- CF8C-Plus – New Cast Stainless Steel for High-Temperature Performance
- Uncooled Micromechanical Infrared Camera (UMIR-Cam)

Pacific Northwest National Laboratory

- Product Acoustic Signature System (PASS)
- Starlight
- FT-MS Proteome Express



Sandia National Laboratories researcher Kevin Krenz inspects components in the first-generation Extreme Ultraviolet Lithography (EUVL) tool developed by Sandia and Lawrence Berkeley and Lawrence Livermore National Laboratories. The EUVL technology can make microchips that are 100 times faster with 1,000 times more memory.

Sandia National Laboratories

- SnifferStar
- Acoustic Telemetry Technology
- Low Emissions Atmospheric Metering Separator (LEAMS)
- Emitter Turn-Off Thyristor (ETO)
- Isolated Cast-in-Place Microvalves

Savannah River Technology Center

- Aerosol-to-Liquid Particle Extraction System (ALPES)

3M

- 3M Composite Conductor

Airak, Inc.

- Fiber Optic Electrical Current and Temperature Transducer ❖

The silicon solar cell turns 50

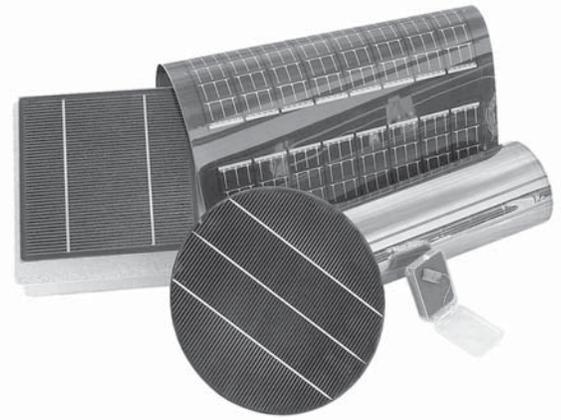
The world's first practical solar cell was invented in Murray Hill, N.J., 50 years ago. The Solar Energy Technologies Program in the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy celebrated the golden anniversary during DOE's observance of Energy Awareness Month.

An exhibit, "50 Year Anniversary of the Bell Labs Solar Cell Battery," was on display in the DOE Forrestal Building Headquarters lobby in Washington, D.C., from Sept. 29 through Oct. 10, 2003. The exhibit showcases an educational timeline, photographs, and many of the original artifacts of the research work done by Gerald Pearson, Daryl Chapin, and Calvin Fuller of Bell Laboratories in 1952 and 1953. The artifacts include the first solar cell and one of the first photovoltaic (PV) modules developed by Bell Laboratories.

The "Bell Cell" was made of crystalline silicon, was doped with phosphorous and boron to form the p-n junction, and had a conversion efficiency of about six percent. This represented an awe-inspiring 12-fold improvement over its predecessor, the selenium solar cell, which was only 0.5 percent efficient.

On April 25, 1954, Bell executives held a press conference to announce the development of the Bell solar cell. Members of the media were impressed to see the Bell Solar Battery (as it became known to the public) powering a radio transmitter that was broadcasting live radio and music. Although a great stir ensued at the time about the importance of this invention, little did anyone realize the impact the tiny cell would have on the nation and the world.

In 1954, the world had less than a watt of solar cells capable of producing electricity. During the past 50 years, there has been continued discovery of silicon and other solar cell materials. Today, 2.2 billion watts of solar cells are installed worldwide thanks to phenomenal growth rates of 24 percent per year during the last 15 years and 35 percent during the last seven years. Today, electricity generated by solar cells powers satellites for modern



Photovoltaic (PV) materials then and now: a multicrystalline silicon cell (left, square); single-crystalline silicon cell (left front, round); thin film PV, also known as amorphous silicon (in back); and the first solar cell by Bell Laboratories (right, front).

communications; ensures safe operation of navigation equipment for land and water transportation; brings water, lighting, and telephone service to many who had done without; and supplies clean power to those already connected to the power grid.

In the pioneering spirit of Bell Labs, much work remains to be done. The hope for the next 50 years is to see solar providing power throughout the world and being used in ways not even imagined today. ❖

Fermilab on target with alternative-fuel fleet

With more than 25 percent of the vehicles in its fleet now equipped to run on alternative fuels, the Department of Energy's (DOE) Fermi National Accelerator Laboratory (Fermilab) is well on the way to reaching the Federally mandated goal of a 20 percent reduction in fossil fuel use by Fiscal Year (FY) 2005. The effort stems from Executive Order 13149, "Greening the Government Through Federal Fleet and Transportation Efficiency," issued April 21, 2000.

Fermilab now has 63 alternative-fuel vehicles: 20 vehicles running on E85, a mixture of gasoline and alcohol containing up to 85 percent ethanol; 40 vehicles capable of running

on either compressed natural gas or conventional gasoline; and three vehicles running exclusively on electricity. The laboratory also has reduced its total fleet by 18 vehicles in the last two years and recently installed a 6,000-gallon E85 underground storage tank and fuel delivery system. Fermilab vehicles are owned by DOE or leased through the General Services Administration.

"The vehicles can do everything they did previously, and that's the whole point," says Brian Niesman, manager for distribution and shipping in Fermilab's Business Services Section. "We are still moving items from point A to point B—whether people,

parts, or equipment—and we're burning much cleaner fuel while we do it."

Executive Order 13149 calls for Federal agencies operating 20 or more motor vehicles within the United States to reduce its entire fleet's annual petroleum consumption by at least 20 percent by the end of FY 2005, as compared with FY 1999 petroleum consumption levels. In FY 1999, Fermilab vehicles used 100,578 gallons of gasoline and 28,166 gallons of diesel fuel. To meet Federal requirements, the laboratory's targets for FY 2005 consumption are about 80,000 gallons of gasohol and about 22,500 gallons of diesel fuel. ❖

Edward Teller dies at age 95

Director Emeritus Dr. Edward Teller, co-founder of the Department of Energy's Lawrence Livermore National Laboratory (LLNL), died Sept. 9, 2003, at his home following a stroke he had suffered a few days prior to his death. He was 95 years old.

"We are deeply saddened by the news of the death of Dr. Edward Teller," Secretary of Energy Spencer Abraham said. "...Dr. Teller is one of the giant figures of the 20th century, whose contributions to winning both World War II and the Cold War are immeasurable. He had an impact not only on science, but on generations of scientists who worked with him and learned from him. All of us are going to miss his inspired and creative genius."

In 1943, Teller went to work on the Manhattan Project at the fledgling Los Alamos National Laboratory and eventually became assistant director. He was instrumental in creating the Livermore site of what was then called the University of California Radiation Laboratory in 1952, now LLNL. Teller strongly advocated development of the hydrogen bomb and promised and

delivered a submarine-launched nuclear weapons system. He served as Director at Livermore for two years and then as Associate Director for Physics until his formal retirement in 1977. In 1975, Teller was named Director Emeritus of LLNL by the University of California and was appointed Senior Research Fellow at the Hoover Institution, positions that he held until his death.

"The loss of Dr. Edward Teller is a great loss for this laboratory and for the nation," LLNL Director Michael Anastasio said. "He put his heart and soul into this laboratory and into ensuring the security of this nation, and his dedication never foundered."

"Edward Teller was one of the world's leading scientific minds of the 20th century..." University of California President Richard C. Atkinson said. "It has been a great honor for the University of California to be identified with him..."

Teller received numerous awards during his lifetime. In November 2002, Secretary Abraham presented the Secretary's Gold Award to him in



Dr. Edward Teller visits with Secretary Abraham in 2002.

recognition of his outstanding contributions to science and national security. In July 2003, President George W. Bush awarded Teller the Presidential Medal of Freedom, the nation's highest civilian honor. Humbled by the award, Teller said, "In my long life I had to face some difficult decisions and found myself often in doubt whether I acted the right way. Thus the medal is a great blessing for me."

Additional details on Teller's life are available at <http://www.llnl.gov>. ❖

You may get caught in the act – of excellence

You work hard and do the best you can, often on very short deadlines. You may wonder sometimes if your efforts are noticed and your work, appreciated.

If you work within or support the Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE), you may find that your work and extra efforts are being noticed—and rewarded—by none other than EERE Assistant Secretary David Garman. He has taken to surprising people with his "Caught in the Act of Excellence" Awards.

Fifteen awards have been presented to date. One of the first went to Patrick Behm—then in the Office of Management, Budget and Evaluation (ME), now with EERE—for designing the logo for the President's FreedomCAR initiative. Valri

Lightner, EERE, was recognized for leading the Hydrogen Posture Plan coordination effort with the Offices of Fossil Energy; Nuclear Energy, Science and Technology; Science; and ME in support of Secretary of Energy Spencer Abraham's five-year budget plan. Beth Campbell from the Energy Information Administration (EIA) received an award for heading the team that provided testimony, background materials, and questions and answers for natural gas hearings and regional summits. Another award went to Donna Hawkins as part of the EERE team that coordinated a number of significant transportation events and announcements.

Common elements in all the awards are excellence and surprise. Some recipients learned of their awards when they were summoned

to the Assistant Secretary's office, some were in their own offices going about the business of the day, and still others were surprised to see Assistant Secretary Garman walk into a staff meeting to present awards. In all cases, Assistant Secretary Garman announces, "You've been caught, caught in the act of excellence," as he hands out a certificate with a cash award.

"David Garman is spreading goodwill for the whole of EERE with this surprising and thoughtful act," said Beth Campbell, EIA. "This is way out of the box for DOE and it is so nice to know that someone appreciates the work we do."

So, when you least expect it, if you work with or for EERE, you, too, may be caught in the act of excellence. ❖

Regional carbon sequestration teams selected

Seven regional teams have been selected by the Department of Energy (DOE) to help form the framework needed to develop carbon sequestration technologies and put them into action. The Regional Carbon Sequestration Partnerships include leaders from more than 140 organizations spanning 33 states, three American Indian nations, and two Canadian provinces. The partnerships complement the work of the Carbon Sequestration Leadership Forum, an international effort spearheaded by the U.S. Departments of Energy and State to develop and deploy carbon capture and storage technologies worldwide.

The regional partnerships, collectively valued at more than \$18.1 million, stem from a Phase I solicitation issued by DOE's National Energy Technology Laboratory in December

2002. DOE will provide approximately \$11.1 million to support the partnerships over the next two years. Each group will receive up to \$1.6 million, with organizations contributing, on average, 39 percent.

Each team will evaluate and promote the technologies and infrastructure best suited to its unique region. Under Phase I, the teams will work on several issues, including regional CO₂ baselines; technology deployment; environmental regulations; public education; capturing, storing, and transporting CO₂; long-term monitoring; and validation planning. At the end of two years the partnerships will recommend technologies for small-scale validation testing in a Phase II solicitation expected to be issued in late 2005.

The regions and partnership leaders are:

- **Midwest:** Battelle Memorial Institute, Columbus, Ohio;
- **Midwest Geological:** University of Illinois – Illinois State Geological Survey, Champaign;
- **Northern Rockies/Great Plains:** Montana State University, Bozeman;
- **Plains:** Energy and Environmental Research Center, University of North Dakota, Grand Forks;
- **Southeast:** Southern States Energy Board, Norcross, Ga.;
- **Southwest:** Western Governors Association and New Mexico Institute of Mining and Technology, Socorro; and
- **West Coast:** California Energy Commission, Sacramento.

Additional information on the carbon sequestration program and partnerships is available at <http://fossil.energy.gov>. ❖

'New Yellow Bus' gains attention

The "New Yellow Bus" turned heads and attracted curious glances recently as it rolled through towns in Montana, Idaho, and Wyoming. It also created interest in Washington, D.C., with appearances last month at Federal agencies and on Capitol Hill. The bus is a modernized version of the traditional Yellowstone National Park tour bus that has been developed as a low-emission, cost-effective community and transit shuttle bus of the future.

The Department of Energy's (DOE) Idaho National Engineering and Environmental Laboratory (INEEL) is working with automotive industry leaders, the Department of Transportation's Federal Transit Administration and National Park Service, and private industry to develop the vehicle. The bus is the product of a three-year collaborative effort to develop a vehicle that meets park needs and can be used by transit, para-transit, shuttle bus, and delivery fleet operators throughout the nation.

The new bus design was unveiled in ceremonies at Yellowstone National Park in late August 2003.

While the modernized version of the tour bus retains the conventional feel of the older model park vehicle, the 16-to-32-passenger bus can use alternative fuel, features a low floor, and complies with the Americans with Disabilities Act.

The passenger area is built low to the ground so steps are not required for entry. An entry ramp can be extended to accommodate passengers in wheelchairs. The bus also has a retractable roof to allow passengers greater visibility in the outdoors. Another optional feature is replacement of the wheels with tracks for traveling over snow; the tracks will be added in December 2003 so the bus can be tested as a snow coach this winter in Yellowstone.

INEEL project manager Kerry Klingler said the bus will be assessed for how it can be adapted to other



The New Yellow Bus is designed with large windows and a retractable roof for better visibility for sightseers.

transportation needs. Eventually, it may be manufactured using several optional engines to allow use of alternative fuels like natural gas, propane, ethanol, and biodiesel.

The bus will have its debut this month with the transit industry at the BusCon show in Las Vegas. Project partners include Heart International, Ruby Mountain Inc., Yellowstone and Grand Teton National Parks, Greater Yellowstone/Teton Clean Cities Coalition, ASG Renaissance, and Hadley Products. ❖

PNNL supercomputer fastest open system in U.S.



The Department of Energy's Pacific Northwest National Laboratory (PNNL) is now home to the United States' fastest operational unclassified supercomputer. The laboratory's 11.8 teraflops, industry-standard HP Integrity system (at left) came to full operating power in late August 2003. Based on peak performance, the PNNL machine is the fifth fastest system in the world.

The PNNL system is the world's fastest supercomputer based on the Linux operating system and is the largest machine ever built using Intel's 64-bit architecture. The system, 9,200 times faster than a personal computer, draws its speed and computing power from nearly 2,000 next-generation Intel® Itanium®-2 processors.

The supercomputer is housed in the Molecular Science Computing Facility of the William R. Wiley Environmental Molecular Sciences Laboratory. Scientists from around the country can access the supercomputer for research through a competitive proposal process. The additional power and speed will enable studies in atmospheric chemistry, systems biology, catalysis, and materials science. ❖

Savannah River is the tops at national FEW conference



Several national and regional awards were presented to the Department of Energy's Savannah River Operations Office (DOE-SR) at the recent national Federally Employed Women (FEW) training conference in Chicago, Ill. Over 100 nominations for various awards were received from FEW Chapters nationwide.

At left, DOE-SR Manager Jeffrey Allison accepts the Federal Department/Agency Award from FEW President Patricia Wolf. The award recognizes a Federal Department or Agency that has shown exemplary service and made significant resource and service contributions critical to the success of FEW.

Ray Wilson, DOE-SR Equal Employment Opportunity Manager, received the Distinguished Service Award for leadership in furthering the cause of FEW. Jacqueline Wilkins, Vice President, Savannah River FEW Chapter, received the Barbara Boardman Tennant Award for outstanding service. The chapter also received a first place national award for its Special Emphasis Project, national second and third place awards for special projects, and two southeast regional awards. ❖

ORNL technology helps family get utility bill refund



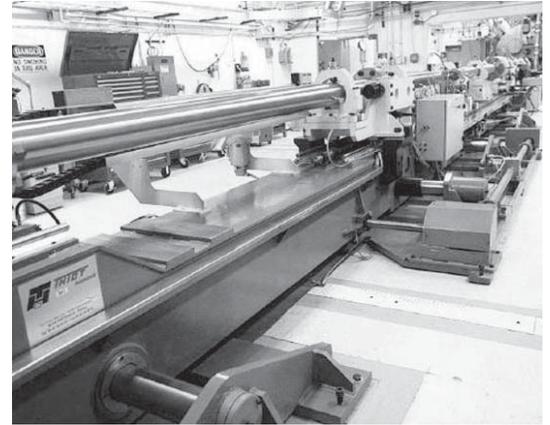
Thanks to work conducted at the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL), a family living in a Habitat for Humanity home in Lenoir City, Tenn., is selling electricity back to the Tennessee Valley Authority (TVA). Under its Generation Partners program, TVA pays homeowners and small businesses 15 cents for every kilowatt-hour they produce from home wind turbines or solar collectors. The family, which is testing several ORNL-developed and tested home building technologies, expects to receive about \$300 a year for the electricity coming from 48 solar panels on the roof of its 1,057-square-foot, energy-efficient home.

ORNL engineers designed the house and currently are monitoring its utility behavior as part of DOE's Zero Energy program. Several other homes in the same subdivision were built with ORNL technology. In the photograph, Jeff Christian (right), Director of ORNL's Buildings Technology Center, describes the laboratory's efforts to construct energy-efficient homes to TVA Director Skila Harris. ❖

LLNL fires first plutonium shot with JASPER gas gun

The Department of Energy's (DOE) Lawrence Livermore National Laboratory (LLNL) has successfully executed the first plutonium shot using the Joint Actinide Shock Physics Experimental Research (JASPER) gas gun at the Department's Nevada Test Site (NTS). LLNL scientists used the 100-foot, two-stage gas gun (at right) to fire a projectile at more than five kilometers per second at a plutonium target. The impact produced a high-pressure shock wave that passed through the plutonium in a fraction of a microsecond while diagnostic equipment measured the properties of the shocked plutonium.

Such shock physics experiments complement the ongoing subcritical experiment program at NTS as part of the National Nuclear Security Administration's stockpile stewardship program to maintain the safety and reliability of the nation's nuclear weapons stockpile in the absence of underground testing. A series of 20 non-nuclear shots were completed to qualify the JASPER gas gun for use with nuclear materials. The gas gun will see multi-laboratory experimental use. ❖



Nevada Test Site commemorates Patriot Day

President George W. Bush proclaimed Sept. 11, 2003, as Patriot Day and called upon Americans to reflect on the tragic events in 2001 and the innocent people who lost their lives that day and those who fight for our freedom. Secretary of Energy Spencer Abraham encouraged Department of Energy (DOE) sites to fly the U.S. flag at half-staff and observe a moment of silence.

To honor Patriot Day, the Fire and Rescue Honor Guard at DOE's Nevada Test Site (at right) made its debut appearance outside the Nevada Support Facility in North Las Vegas with a solemn ceremony and the traditional sounding of the bell. The Honor Guard members, all Bechtel Nevada employees, are Firefighter Engineers Quentin Aukeman and Mike Flammini, Senior Paramedics Rhonda Foss and Ron Peters, Paramedic Captain Larry Ayala, Fire Prevention Captain David Young, Chief's Aide Chris Hersh, and Fire Captain James Millan. Senior Officers are Chief Charles Fauerbach, Deputy Chiefs John Gamby and John Rynes, and Fire Marshall James Brown. ❖



What's missing at the Fernald Closure Project?

Something was missing when workers at the Department of Energy's (DOE) Fernald Closure Project arrived for work on Aug. 24, 2003. Over the weekend, demolition contractor MCM Management Corporation, West Bloomfield, Mich., razed the 350,000-gallon, 269-foot high West Water Tower (at right), one of the last structures from Fernald's historic skyline.

Constructed in 1963, the water tower supported Fernald's industrial and fire protection needs during most of its uranium metal production mission and its transition to environmental remediation. With its red, and later blue, checkered pattern, the tower could be spotted miles from the site in rural southwest Ohio and was a symbol of Fernald's role in the nation's weapons production program during the Cold War.

Since 1994, Fluor Fernald has demolished 137 of 255 structures and facilities at the 1,050-acre site, including six of 10 major uranium processing plants. DOE and Fluor Fernald are scheduled to complete most demolition activities in 2004 and cleanup and closure of the site in 2006. ❖



Construction starts on Path 15 transmission line

An Arizona construction company has received the green light to start work to fix a notorious electricity transmission line bottleneck in California. On Sept. 15, 2003, Trans-Elect's New Transmission Development Company provided the Department of Energy's Western Area Power Administration with \$76 million to start work on the new 84-mile Path 15 transmission line.

"With construction funding in place, Western now can take the lead as project manager," said Western Administrator Mike HacsKaylo. "I am

confident that with the expertise and dedication of Western employees, the project will come in on time and budget, and serve as a model for future transmission expansion."

Trans-Elect is responsible for funding the project. Pacific Gas and Electric Company is the third Path 15 upgrade participant. The utility will manage all substation work to accommodate the new line at its existing Los Banos and Gates substations.

Path 15 is a system of three 500-kV lines between northern and southern California, except for the segment

between Los Banos and Coalinga in the Central Valley where only two 500 kV lines were built. The project will add a third line and upgrade the substations at either end of this segment. It will add 1,500 megawatts of transmission capacity between northern and southern California.

Western will own the new line. Transmission rights will be shared among the three participants according to their contributions. The California Independent System Operator will operate the new line. The project is expected to come on-line in late 2004. ❖

Technology advances low-level plutonium detection

A state-of-the-art measurement capability for low-level detection of plutonium isotopes and other long-lived radionuclides has been developed at the Department of Energy's (DOE) Lawrence Livermore National Laboratory (LLNL). The technique uses Accelerator Mass Spectrometry, or AMS.

Based on counting the number of atoms in a sample, this new technology is 200 to 1,000 times more sensitive than classical decay counting techniques commonly used for monitoring occupational exposures to plutonium. AMS far exceeds the requirements of the latest DOE regulation 10 CFR 835 for in vitro

bioassay monitoring of plutonium-239 where classical techniques fail.

The technology, developed at LLNL's Center for Accelerator Mass Spectrometry, has been used extensively to improve the quality and reliability of plutonium exposure assessments at the former U.S. nuclear test sites in the Marshall Islands. "We recently participated in an intercomparison exercise organized by the U.S. National Institute of Standards and Technology for low-level determination of plutonium in synthetic urine," said Terry Hamilton, Marshall Islands Program Leader at LLNL. "Our laboratory was the only group to pass ANSI quality performance criteria for precision and bias at

all test levels for both plutonium-239 and plutonium-240."

LLNL scientists are interested in developing this new technology to improve the standard of occupational safety and risk management at LLNL and elsewhere around the DOE complex. Potential applications include improved plutonium biodosimetry models; nuclear isotopic forensics and counterterrorism; risk assessments; and dose reconstruction.

For further information on AMS, contact John Knezovich, knezoich1@llnl.gov; for low-level plutonium bioassay, contact Terry Hamilton, hamilton18@llnl.gov. ❖



At the awards ceremony at DOE Headquarters are (l-r) Elias Zerhouni, Director, NIH; Francis Collins; Ari Patrinos; Secretary Abraham; and Raymond Orbach, Director, Office of Science, DOE. ❖

On September 10, 2003, Secretary of Energy Spencer Abraham presented the Secretary's Gold Award to two leaders of the Federal Government's Human Genome Project: Francis Collins, Director, National Human Genome Research Institute, National Institutes of Health (NIH), Department of Health and Human Services, and Aristides (Ari) Patrinos, Director, Office of Biological and Environmental Research, Office of Science, Department of Energy (DOE). The award is DOE's highest honor and includes a plaque with citation, a medallion, and a rosette.

"These awards are in recognition of your vision and sustained leadership of the international human genome project, which culminated in the completion of the human DNA sequence in April 2003," Secretary Abraham said. "This outstanding scientific and management accomplishment has opened the door to the biotechnology revolution that now offers such promise for human health, clean energy, and a cleaner environment."

DOE aviation programs earn awards

The hard work and efforts of an aviation program team from the Department of Energy's (DOE) Savannah River Site were recognized on Sept. 25, 2003, when the team was announced the winner of the 2002 Federal Aviation Program Award in the Small Program Category (less than 20 aircraft) presented by the General Services Administration (GSA) for excellence in Federal aviation. The team was selected by an independent panel of aviation experts over nominees from 18 Federal agencies. Last year, the Savannah River team received an Honorable Mention Award. The team is led by Steven Shelt, Aviation Program Manager, and David Boyll, Aviation Safety Officer, Savannah River Operations Office; and Ernie Tussey, Director, Special Operations, and Robert Green, Aviation Operations Manager, Wackenhut Services Incorporated.

The Savannah River team and Joseph Ginanni, Aviation Manager, Nevada Site Office, National Nuclear Security Administration (NNSA), were nominated, respectively, for the GSA Federal Aviation Program and Professional Awards. The nominations were the result of both being named



At the Federal Aviation Program Award presentation are (l-r) C. Martin Wagner, Associate Administrator, General Services Administration (GSA); Marion Blakey, Administrator, Federal Aviation Administration; Lawrence Brede, General Manager, Wackenhut Services Incorporated (WSI); Steven Shelt, DOE Savannah River Operations (DOE-SR); Ernie Tussey, WSI; Jeffrey Allison, Manager, DOE-SR; and David Bibb, Deputy Administrator, GSA.

winners of DOE's annual awards for aviation excellence.

The DOE awards, sponsored by DOE's Office of Aviation Management (ME-2.4) in the Office of Management, Budget, and Evaluation, honored aviation program accomplishments in calendar year 2002 that produced cost savings; attained greater efficiency in operations; developed innovations in programs, processes, or systems; provided additional service at no additional cost; and achieved a high level of effectiveness. The awards were presented July 17, 2003, at the DOE

Aviation Operations and Safety Workshop at Kelly Field, San Antonio, Texas. Robert G. Jenkins, Director, Office of Aviation Management, presented a perpetual (traveling) trophy and personal trophies to the winners.

The Savannah River team won the 2002 DOE Aviation Program Award for the second consecutive year. The team was recognized for its support of the Savannah River Site Law Enforcement Team; development of new performance measures to evaluate efficiency and effectiveness; and other services.

Ginanni received the 2002 DOE Aviation Management Professional Award for his significant contributions to the management/administration, operations, maintenance, training, and safety elements of the NNSA Nevada Site Office aviation services. He wrote the first ever Aviation Accident/Incident Response Plan and produced a new Aviation Plan for the Nevada site.

Additional information on ME-2.4 and DOE's aviation programs is available at <http://www.ma.mbe.doe.gov/me24/index.html>. ❖

NEW ON THE *Internet*

NPC natural gas study

In March 2002, Secretary of Energy Spencer Abraham requested that the National Petroleum Council (NPC) conduct a study on natural gas in the United States in the 21st century. The study, "Balancing Natural Gas Policy – Fueling the Demands of a Growing Economy," was presented

to Secretary Abraham on Sept. 25, 2003. The NPC is an advisory council to the Secretary of Energy consisting of about 175 industry members.

The natural gas study examines the potential implications of new supplies, technologies, perceptions of risk, and evolving market

conditions through 2025. It also provides insights on energy markets and the outlook for longer-term sustainability of natural gas supplies. The study is available at <http://fossil.energy.gov/programs/oilgas/publications/npc/03gasstudy/index.html>. ❖

Research DIGEST

A new study conducted by scientists at the Department of Energy's **Pacific Northwest National Laboratory** and the University of California, Irvine, has revealed that tiny wind-blown sea salt particles drifting into the atmosphere participate in a chemical reaction that may have impacts on climate and acid rain. Sulfur dioxide is a byproduct of burning fossil fuels containing sulfur. It is also formed when naturally emitted sulfur-containing compounds react in the atmosphere. In the air, sulfur dioxide is converted to sulfuric acid, a major component of acid rain. The study indicates that sea salt particles will absorb more sulfur dioxide and convert it to sulfuric acid more rapidly than previously thought. The research, published in the July 3, 2003, online issue of *Science Express*, could have substantial implications for increasing the accuracy of climate models. (Staci Maloof, 509-372-6313)



Few people have characterized a two-stroke engine as a clean-burning engine. From snowmobiles and chain saws to gas-powered lawn trimmers, the strong scent of exhaust fumes is all too familiar. But the fumes could be significantly reduced if a concept developed by researchers at the Department of Energy's **Idaho National Engineering and Environmental Laboratory** pans out. The concept involves a small separator that will remove unburned oil and gas from the engine exhaust without compromising engine performance. The separator will be located in the exhaust system or the muffler exhaust area. The exhaust gas will spin at a high rate, centrifugally separating the heavy oil, fuel and particulates from the lighter gaseous combustion products. The heavy constituents will be burned in an afterburner or captured and removed for recycling or disposal. The researchers look forward to moving to the next level of development. (John Walsh, 208-526-8646)

By applying basic equipment similar to that used to eliminate microbes in water treatment plants, two chemical engineers at the Department of Energy's National Energy Technology Laboratory (NETL) have patented a process, termed GP-254, to remove high levels of mercury from flue gas emitted from coal fired power plants. Researchers Evan Granite, shown with the GP-254 Process test rig, and Henry Pennline found that more than 70 percent of the elemental mercury in simulated flue gases can be removed as mercurous sulfate and mercuric oxide. They used 253.7 nm ultraviolet light to induce photochemical reactions of mercury with components of the flue gas. As a next step, Granite and Pennline plan to test the GP-254 Process using a real slip stream of flue gas in NETL's 500-lb/hr pilot-scale combustion facility. Inquiries about potential applications have been received from government, industry, and research organizations. A paper describing the process has appeared in *Industrial & Engineering Chemistry Research*, a publication of the American Chemical Society.



Researchers at the Department of Energy's **Brookhaven National Laboratory**, who previously found reduced levels of the enzyme monoamine oxidase B (MAO B) in the brains of smokers, have found that the enzyme level in peripheral organs—the kidneys, heart, lungs, and spleen—is also affected by smoking. This crucial enzyme breaks down neurotransmitters and dietary amines, and too much or too little MAO B can adversely affect health and even personality. The scientists administered MAO B-specific binding radiotracers labeled with carbon-11 to 12 smokers and performed whole-body positron emission tomography (PET) scans to measure the level of MAO B in various organs. Comparing the results with those from a group of eight nonsmokers, the scientists found that MAO B activity in the peripheral organs was significantly reduced in the smokers relative to the nonsmokers. Reductions ranged from 33 to 46 percent. (Karen McNulty Walsh, 631-344-8350)

The Department of Energy's (DOE) **Argonne National Laboratory** is collaborating with the National Aeronautics and Space Administration (NASA) to develop a method of inspecting the leading edge thermal protection system for space shuttle wings. Researchers in Argonne's Energy Technology Division have been conducting tests on the wings since April 2003 and are working to meet an early fall deadline to provide their best potential investigation methods. "NASA invited us to work on this very short-term effort because we have been working on inspection methods for ceramics funded by DOE for 20 years," said Argonne's Bill Ellingson. "We have the knowledge base for...ceramics at high temperatures." The leading edge of the wing and nose cap of the space shuttle are composed of reinforced carbon-carbon material, a ceramic composite that is extremely tough at high temperatures. The researchers have intentionally put flaws in NASA samples and successfully detected them using their proposed inspection methods. (Donna Jones Pelkie, 630-252-5501) ♦

OA symposium focuses on improvements

Staff of the Department of Energy's (DOE) Office of Independent Oversight and Performance Assurance (OA) assembled on Sept. 8-9, 2003, for a two-day symposium. Deputy Secretary of Energy Kyle McSlarrow and Under Secretary of Energy for Nuclear Security and Administrator, National Nuclear Security Administration Linton Brooks were the keynote speakers.

Opening the symposium, Deputy Secretary McSlarrow emphasized OA's crucial role in promoting effective management of DOE's various missions. He praised the "professionalism and objectivity" of OA evaluations, saying, "I find myself using OA more, and more, and more....Your work has made the Department more secure and safer for its employees and communities."

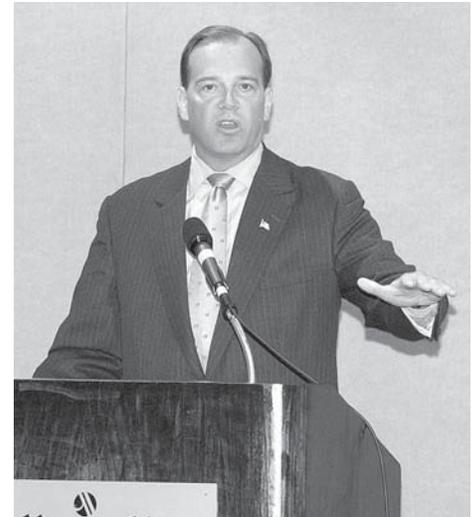
Other senior DOE officials also gave their perspective. Karen Evans, Chief Information Officer; Beverly Cook, Assistant Secretary for Environment, Safety and Health; and Joseph Mahaley, Director, Office of Security, offered examples of OA

successes and advice on how the office can enhance its benefit to DOE senior management.

With senior management's perspectives and needs in mind, staff members broke into groups led by their directors. They discussed their respective offices' and teams' contributions to continuous improvement, both within the OA process and Departmentwide.

Later that day, NNSA Administrator Brooks reflected on the importance of objective, reliable information in national-level decision making. Noting that, "You get what you inspect, not what you expect," he charged OA with the task of helping the Department carry out its missions effectively in today's challenging environment. He called the OA program "a value-added process that utilizes fresh eyes to identify areas where the organization can further grow, develop, and improve."

The symposium's second day focused on the many ideas from the first day's speakers and discussions. Combining the insights from its subordinate offices, OA identified a



Deputy Secretary McSlarrow addresses the OA symposium.

number of initiatives to enhance and streamline the evaluation process and better utilize its human and technical resources. OA will be implementing these initiatives in the coming months to move the Department's independent oversight function to a new level and meet the very high expectations of DOE senior management. ❖

COMING Events

November

4-6 Sixth Annual Joint Energy Facility Contractors Group (EFCOG)/Department of Energy (DOE) Chemical Management Workshop, DOE Headquarters Forrestal Building, Washington, D.C. Sponsored by DOE's Chemical Safety Topical Committee, Office of Environment, Safety and Health. Open discussion will focus on critical chemical management and chemical hazard control issues, including beryllium, faced by line managers, facility engineers, and safety and health professionals. For more information, visit http://www.eh.doe.gov/web/chem_safety/ws2003/ or contact Gail Kleiner, 301-903-5601 or Gail.Kleiner@eh.doe.gov.

5-6 Partnerships for Prosperity and Security Exhibition and Conference, Philadelphia, Pa. Sponsored by the Office of Defense Nuclear Nonproliferation in the Department of Energy's National Nuclear Security Administration. The conference will feature government officials and industry leaders from Russia, Ukraine, and Kazakhstan. The exhibit will include more than 50 high-technology products ready for commercialization in the areas of aerospace; energy; nanotechnology; radiopharmaceuticals; homeland security; materials protection; and nuclear, biological, and chemical nonproliferation. Additional details are available at <http://www.partnershipsforprosperity.net>.

17-19 Clean Coal and Power Conference, Washington, D.C. Cosponsored by the Department of Energy's (DOE) Office of Fossil Energy (FE), the Center for Energy and Economic Development, and others. The significance of coal as a viable energy source to meet the growing global energy demand will be explored. 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 FE and PRC's Ministry of Science and Technology. Additional information is available at <http://fossil.energy.gov/news/events/cleancoal/index.html>. ❖

People IN ENERGY

Joseph P. Indusi, Chair of the Nonproliferation and National Security (NNS) Department at the Department of Energy's Brookhaven National Laboratory (BNL), has been elected a Fellow of the Institute of Nuclear Materials Management. He was recognized for "his distinguished contribution to the field of safeguards and nuclear materials management." Indusi joined BNL in 1973 and served as Head, Safeguards and Arms Control Division from 1986 to 2000. He became Acting Chair of the NNS Department in May 2000 and Chair in January 2001.



On Sept. 3, 2003, President George W. Bush announced his intention to appoint **Karen S. Evans**, Chief Information Officer at the Department of Energy, to be Administrator, Office of Electronic Government, Office of Management and Budget. Previously, Evans served as Assistant Director for Information Services and Division Director for Information System Management at the Department of Justice. She earlier served as Deputy Director, Applications Management Division at the Department of Agriculture.

Robert Hwang has been named Director of the Center for Functional Nanomaterials (CFN) at the Department of Energy's (DOE) Brookhaven National Laboratory. Construction of the 85,000-square-foot CFN, one of five nanoscience centers being built at DOE national laboratories, is scheduled to begin in 2005. Previously, Hwang was Manager of the Thin Film and Interface Science Department at DOE's Sandia National Laboratories.

Deena Koper and **Bob Rule** of the Department of Energy's Oak Ridge Institute for Science and Education have been appointed to the Tennessee Center for Performance Excellence (TNCPE) 2003 Board of Examiners. The TNCPE administers an annual awards program that recognizes organizations demonstrating the highest levels of performance excellence. The Board of Examiners is comprised of leading experts

from all sectors, including business, industry, education, health care, trade, and government. As examiners, Koper and Rule will review and evaluate applications submitted in the award process.

Seven technical staff members at the Department of Energy's Los Alamos National Laboratory (LANL) have been named Laboratory Fellows, the highest scientific honor bestowed by LANL on employees. The new Fellows are: **Carol J. Burns**, Chemistry Division; **R. Brian Dyer**, Bioscience Division; **Robert S. Hixson**, Dynamic Experimentation Division; **Quanxi Jia**, Materials Science and Technology Division – Superconductivity Technology Center; **Nicholas S.P. King**, Physics Division; and **Michael M. Nieto** and **Arthur F. Voter**, Theoretical Division.

Researcher **Steve J. Zinkle** of the Department of Energy's Oak Ridge National Laboratory (ORNL) has been elected a Fellow of ASM International. The society recognized Zinkle for "outstanding contributions to understanding the effects of radiation on the properties of materials, and the development of new, advanced materials for service in...fusion reactors." Zinkle, who joined ORNL in 1985, is a nuclear materials science and technology group leader and fusion materials program manager in the laboratory's Metals and Ceramics Division.



Two top prizes in the field of superconductivity have been awarded to scientists from the Department of Energy's Argonne National Laboratory. **George Crabtree**, Director, Materials Science Division, is the recipient of the Kamerlingh Onnes Prize for his pioneering experiments on vortex matter. The John Bardeen Prize was presented to **Valerii Vinokur**, senior scientist, Materials Science Division, for his influential contributions to vortex matter theory. The awards, given every three years, were presented at the Seventh International Conference on Materials and Mechanisms of Superconductivity and High Temperature Superconductors.

Steven Patterson is the new Associate Director for Engineering at the Department of Energy's Lawrence Livermore National Laboratory (LLNL). Most recently, Patterson was the United Dominion Industries Distinguished Professor of Precision Engineering at the University of North Carolina at Charlotte. He joined LLNL in 1979 as deputy project leader in engineering and served in a number of positions in engineering research and materials fabrication before joining the university staff in North Carolina in 1993.



J. Wiley Davidson has been appointed Director of the Center for Homeland Security (CHS) at the Department of Energy's Los Alamos National Laboratory (LANL). The center, established in 2002, provides a single point of contact for all external organizations, including the Department of Homeland Security, that seek the assistance and involvement of LANL resources and technical experts in solving national problems related to homeland security. Davidson previously has served in several positions at LANL, including acting and deputy CHS director and leader of the Systems Engineering and Integration and the Strategic Systems Engineering groups.

Larry Dickens, a technology transfer professional at the Department of Energy's Oak Ridge National Laboratory (ORNL), was recently elected Vice-Chair of the Federal Laboratory Consortium, a national organization that promotes the transfer and commercialization of technologies developed at U.S. national laboratories. Dickens has been involved in all aspects of commercialization of ORNL-developed technologies. He was responsible for the largest one-year increase in patent licensing in ORNL history and personally negotiated the largest ORNL Cooperative Research and Development Agreement for \$121 million. ♦

Milestones

YEARS OF SERVICE

September 2003

Headquarters

Economic Impact & Diversity – Sheila D. Gray (35 years), Linda M. Reed (30).

Energy Efficiency & Renewable Energy – Richard E. Putnam (35), Deborah M.

Johnson (25). **Environmental Management** – Gregory T. McBrien (25), Jane M. Talarico (25). **EIA** – Kathleen M. Gibbard (35), Susan H. Holte (30), Robert B. Latta (25). **FERC** – Craig A. Hill (30), Janice G. Luna (30), Bonnie J. Pride (30), Emory E. Gargon III (25), Marianne D. Goldup (25), Hossein Ildari (25), Raymond E. James (25), Louis I. Lieb (25), John J. Wisniewski (25), William L. Zoller (25).

Fossil Energy – Helen B. Dickinson (35), Arthur M. Hartstein (35), Victor K. Der (30), Frank M. Ferrell, Jr. (30), Diana H. Greenhalgh (30), Yvonne G. Caudillo (25), Jer Y. Shang (25). **General Counsel** – Ernestine P. Davis (35), Samuel M. Bradley (30). **Hearings & Appeals** – Fred L. Brown (25). **Intelligence** – Barbara J. Allen (35). **NNSA** – Edward T. Cassidy (40), Joe G. Ayala (30), Frances L. Fejer (30), Donna K. Savel (30), Steven T. Sharp (30), Melody D. Allen (25), Ann K.D. Walls (25).

Management, Budget & Evaluation – Thomasina F. Mathews (30), Theresa E. Summers (30), Douglas Baptist (25), Patricia J. Hodson (25), Norbert D. Juelich (25). **Policy & International** – Richard A. Bradley (25), Debra M.P. Smith (25). **Public Affairs** – Everlener M. Jones (25). **Radioactive Waste** – Glenn H. Gardner (30), Sheila V. Long (30), John G. Vlahakis (30), Shirley A. Davis (25). **Science** – John A. Alleva (30), Kathy L. Holmes (30), Susan G. Tackett (30).

Field

Albany Research Center – Cathy M. Wright (30), Cheryl D. Douglas (25). **Chicago** – Paul M. Neeson (30). **Idaho** – Kara L. Twitchell (35), Dennis D. Wagner (25). **Livermore Site/NNSA** – Ralph R. Kopenhaver (30). **NETL** – Gary D. Walker (35), Robyn L. McKee (25), Lilas M. Soukup (25). **Nevada Site/NNSA** – James N. Bailey (30), William C. Suiter (30).

NNSA Service Center – Janet M. Smith (30), Candy S. Arthur (25), Lori D. Galemore (25), Susan P. Johnson (25). **Oak Ridge** – Richard A. Dotson (30), Barbara J. Jackson (25), Teresa C. Perry (25), Gwendolyn D. Senviel (25).

Ohio – John L. Drake, Jr. (30), Stephen J. Albracht (25). **Pittsburgh Naval Reactors/NNSA** – James D. Sage (35), Michael C. Roper (30).

Richland – Alfred N. Lake (35), Bruce L. Nicoll (35). **Rocky Flats** – Claudia J. Heroth (35). **Savannah River** – Mariah A. Bowman (30), Donnie L. Campbell (30), David L. Cowart (30), Eddie J. Hipp (30), George W. Painter (30), Rebecca A. Price (30), David P. Roberts (25). **Savannah River Site/NNSA** – Marion R. Moody (25). **Strategic Petroleum Reserve** – Eugene D. Kelley, Jr. (25).

Bonneville Power – John R. Cowger (35), Gregory E. Drais (35), Michael P. Sasser (35), David J. Baldwin (30), Gerald D. Downing (30), Darwin Durek (30), James J. Graffy (30), Terrie L. Jones (30), Wayne R. Kallio (30), Vickie A. Vanzandt (30), Diane M. Yost (30), James M. Ayers (25), Patricia S. Baltazar (25), Donna M. Beeks (25), Charles H. Combs (25), Maurice W. Gerhardt, Jr. (25), Bruce L. Ginther (25), Kimberley J. Howell (25), Rodney E. Lee (25), Paul W. Martin (25), Johnny J. McCollister (25), Edna J. Missinne (25), Cathy A. Prichard (25), Thomas W. Roark (25), Allan R. Schuff (25), Jerry D. Taylor (25), Floyd D. Underwood (25), Gail M. Wingett-Neal (25).

Southeastern Power – Clayton L. Bryant (30). **Southwestern Power** – Barbara E. Otte (35). **Western Area Power** – Deanna L. Wendt (35), Thomas E. Chinn (30), Max A. Fonseca (30), Lonnie L. Zastrow (30), Harvey E. Kohl (25), Daniel D. O'Neill (25), Terry A. Taylor (25), Edward P. Weber (25).

RETIREMENTS

August 2003

Headquarters

Environmental Management – James G. Cruickshank (30 years), Henry P. Himpler, Jr. (20). **FERC** – Elizabeth J. Bethke (10), Glenda M. Godwin (21), Dennis M. O'Keefe (25), Christine V. Walker (24), Donald J. Zero (28), Grace M. Zero (16). **Radioactive Waste** – Harold H. Brandt (28).

Field

NNSA Service Center – Deborah S. Smith (24). **Savannah River** – Carol S. Martin (18). **Western Area Power** – Diane L. Bishop (21), Larry J. Brown (31), Edmond Chang (31).

September 2003

Headquarters

FERC – Kenneth M. Anderson (33), Herman S. Dalgetty (12), Rebecca J. Debes (34), John S. Duckworth (30), Donald J. Gelinis (33), William H. Greene (30), Joseph R. Kane (31), Charles E. Klinkenberg (34), James E. Kolak (34), Malcolm W. McDanal (36), Martin W. Novak (24), Patricia A. Snesrud (36). **Fossil Energy** – Alfred C. White (33). **Intelligence** – David M. Rohrer (25). **Management, Budget & Evaluation** – Donald P. Frizzell (40). **NNSA** – William J. Christensen (34), Ernest L. Garcia (25), Paul I. Herman (33). **Security** – Mary E. Jack (42), Linda K. Repass (39), Nevaire S. Rich (33), Brenda J. Scheel (39).

Field

Bonneville Power – James E. Gardner (36), Loren C. Huhta (20), Barbara E. Moen (18), Melvyn L. Pearson (31), Claude E. Pierce (26), Wanda R. Yates (31). **Carlsbad** – Barbara E. Smith (35). **Idaho** – Donald E. Shadley (38). **NETL** – Raymond J. Bernarding (35), Joseph R. D'Este (31), James W. Huemrich (31), William J. Staymates (33). **Oak Ridge** – Donna K. Methot (34). **Southeastern Power** – Donnie A. Cordell (35). **Western Area Power** – George V. Causer (13), Joe W. McDonald (34). ❖

NEW Publications

Office of Inspector General (IG) reports: **Security Over Wireless Networking Technologies** (DOE/IG-0617); **Savannah River Site's Waste Solidification Building** (DOE/IG-0618); **The Department's Unclassified Cyber Security Program-2003** (DOE/IG-0620); **Firearms Internal Controls at the Lawrence Livermore National Laboratory** (DOE/IG-0621). 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>. ❖

Work to begin on Russian fossil-fuel power plants

The United States and Russia have taken a major step toward closing down the last three remaining Russian reactors producing weapons-grade plutonium. Two U.S. companies, Washington Group International and Raytheon Technical Services, have completed negotiations with Rosatomstroi, a Russian investment and construction company, for preliminary designs of projects to refurbish and construct fossil-fuel power plants in the traditionally closed cities of Seversk and Zheleznogorsk.

The two companies will carry out this work at the two sites beginning in Fiscal Year 2004. When work is completed, operation of the plants will permit the shutdown of the plutonium production reactors, which currently provide heat and electricity to the two cities.

In March 2003 in Vienna, Austria, U.S. Secretary of Energy Spencer Abraham and Russian Minister of Atomic Energy Alexander Rumyantsev signed an agreement that would reduce the threat from weapons of mass destruction by stopping plutonium production at the last three Russian plutonium production reactors. In May 2003, Secretary Abraham and Russian Ambassador to the United States Yuri Ushakov announced that \$466 million was awarded to the two U.S. companies to begin the shutdown work (*DOE This Month*, April and June 2003).

October 2003

AROUND DOE

INEEL facility earns state pollution prevention honor

The fleet maintenance facility—the Big Shop—at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) has been awarded coveted membership in the State of Idaho GEMStar program for reducing waste and pollution. GEMStar recognizes companies and organizations that voluntarily meet a series of standards and demonstrate leadership in preventing pollution and conserving energy and water.

The Big Shop services INEEL's fleet of buses, heavy equipment, and small vehicles and is involved with research and test-bed applications for converting diesel engines to liquefied natural gas. The facility has instituted nearly two dozen pollution prevention practices including maintaining a solvent-free operation, eliminating aerosols, using mercury-free batteries, and performing alternate fuel conversions.

FERC dam safety program sets standard to follow

For many years, the Federal Energy Regulatory Commission (FERC), an independent agency under the Department of Energy, has taken a leadership role in formulating national policy and guidelines for dam safety. The dam safety program is a model for industry and government programs, including the Federal Emergency Management Agency (FEMA), U.S. Army Corps of Engineers, and U.S. Bureau of Reclamation, as well as other national and international entities.

FEMA has designated FERC as the national lead on Federal and state dam safety programs. "FEMA has recognized FERC as the expert on emergency action planning; and we should avail ourselves to helping others, both state and Federal agencies, to develop their programs," said Gus Tjoumas, Director of FERC's Division of Dam Safety and Inspections.

Education and outreach are important parts of FERC's dam safety program. Numerous training opportunities have been provided for dam owners and Federal and local agencies to learn more about establishing and maintaining dam safety programs. Outreach efforts have increased to include more field information meetings with dam owners, local officials, and residents. The public response has been overwhelmingly positive; and, according to Tjoumas, the outreach initiative will continue in full force. ❖

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

Official Business