

**Secretary
Abraham
outlines U.S.
energy
challenges**

**Ministerial
conference
advances
regional energy
cooperation**

**Fernald site
earns a star for
safety**

*INEEL research in oil, natural gas
exploration technologies*



U.S. Department of Energy



Published monthly in Washington, D.C., by the Department of Energy, Office of Public Affairs, for the information of Department employees and affiliates and available to others by paid subscription.

The Secretary of Energy has determined that this periodical is necessary in the transaction of public business as required by law. Use of funds for printing has been approved by the director of the Office of Management and Budget. The content is reprintable without permission and pictures are available for media reproduction upon request.

Spencer Abraham
Secretary of Energy

Jeanne Lopatto
Director, Office of Public Affairs

Bonnie Winsett
Editor

Visual Media Group
Graphic Design

SUBSCRIPTION price for 12 issues is \$22 (\$27.50 foreign). Send check, or provide VISA or Mastercard number and expiration date, to: Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Credit-card orders can be called in 8 a.m.-4 p.m. ET, 202-512-1800, or faxed to 202-512-2250. Cite "DOE This Month (EINS)."

Circulation Office: 202-586-2050

News Office:
DOE This Month
Office of Public Affairs - PA 40
U.S. Department of Energy
Washington, DC 20585

Internet Mail Address:
doe.thismonth@hq.doe.gov

HQ cc:mail:
THISMONTH.DOE

Deadline for submissions: 15th of every month for the following month.

DOE PA-0024-3
Vol. 24, No. 3

DOE This Month is printed on paper containing at least 50 percent recycled materials.

Inside

6

The Department of Energy's Fiscal Year 2000 Performance and Accountability Report receives a "clean" audit opinion from the Department's Inspector General.

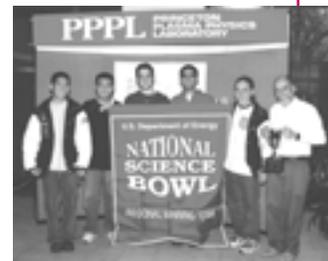


A new high-performance, energy-efficient table lamp developed by researchers at the Department of Energy's Lawrence Berkeley National Laboratory promises greater lighting at less cost.

8

13

East Brunswick High School in New Jersey has earned a return trip to the Department of Energy's National Science Bowl®, May 4-7, 2001, at the National 4-H Center in Chevy Chase, Md.



On our cover

At a borehole test site in Arkansas, researchers from the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) evaluate two new seismic source technologies that may have implications for safer and more economical oil and gas deep-ocean exploration. The technologies were developed by the laboratory and the University of Arkansas. Standing near the borehole where the surface combustion source device sends vibrations through the ground are (l-r) INEEL's Phil West, David Weinberg, Joe Lord, and Tim Green (project manager). Recording data is INEEL researcher John Svoboda. In the bottom photo, Svoboda analyzes the seismic reflection signals in the data collection van.

For more on the technologies, see page 5.

Secretary Abraham reports on state of U.S. energy and challenges ahead

On March 19, 2001, Secretary of Energy Spencer Abraham gave his first major policy speech at the U.S. Chamber of Commerce National Energy Summit in Washington, D.C. Secretary Abraham outlined the challenge America faces in solving its “energy crisis” and presented highlights from an interim report which he and other members of the National Energy Task Force submitted to President George W. Bush in a meeting later that day. The report includes the Department of Energy’s assessment on the current state of the country’s energy supply and demand, resources and infrastructure, and the impact on the nation’s economy.

“The failure to meet this challenge will threaten our nation’s economic prosperity, compromise our national security, and literally alter the way we live our lives,” Secretary Abraham said. “This Administration is fully prepared to face this dire situation, which we inherited, by developing something this country hasn’t seen in years—a comprehensive, long-term national energy policy.”

Secretary Abraham cited three overriding facts defining the challenge of America’s energy needs over the next 20 years:

- Energy demand is rising across the board—particularly for natural gas and electricity;
- Energy supplies are not keeping up with demand and are being limited by a regulatory structure that, in many respects, has failed to keep pace with technology advances and an uncertain political environment that often discourages investment in facilities; and
- The U.S. energy infrastructure—the network of generators, transmission lines, refineries, and pipelines—is antiquated and inadequate to meet future energy needs.

“Unless these challenges are addressed, America’s energy supply will be continually at risk...our citizens will encounter blackouts and other lifestyle-altering disruptions...and our economy will be hobbled by rising energy prices,” Secretary Abraham said.

President Bush has asked the National Energy Task Force to define a clear energy strategy that will allow environmentally responsible exploration and recovery of U.S. domestic resources; enhance the U.S. commitment to conservation and energy efficiency; and encourage investment in new technology to further the development of renewable energy sources.

“Our national energy policy will be comprehensive, hemispheric, and balanced,” Secretary Abraham said. “It also will stress the need to diversify America’s energy supply. It will be founded on the understanding that diversity of supply means security of supply and that a broad mix of supply options—from coal to windmills, nuclear to natural gas—will help protect consumers against price spikes and supply disruptions.”

The complete text of Secretary Abraham’s speech is available at http://www.energy.gov/HQDocs/speeches/2001/marss/energy_speech.html. ❖

Gordon announces NNSA reorganization plan

On March 14, 2001, John A. Gordon, Administrator, National Nuclear Security Administration (NNSA) announced his plan for organizing the Administration within the Department of Energy. The planned reorganization will improve performance of the core mission to strengthen national security and reduce the global threat from weapons of mass destruction through applications of science and technology.

“I commend Administrator Gordon for taking these initial steps to reorganize the NNSA,” said Secretary of Energy Spencer Abraham. “The NNSA’s vital national security missions require the best possible management and organization, and I look forward to continuing to work with General Gordon to ensure the success of these important goals.”

The Administration celebrated its one year anniversary on March 1. “At the one year mark, we can be proud of the progress we have made. We have been very deliberate in establishing NNSA,” Administrator Gordon said. “The reorganization initiative is key to developing a Corporate NNSA that can integrate and balance priorities across the NNSA’s missions and infrastructure. Building a corporate NNSA unifies the organization and makes it a more cohesive whole.”

Two new Associate Administrators have been added to the organization. The Associate Administrator, Management and Administration will ensure efficient management of budget, finance, procurement, information, and staff; the Associate Administrator, Facilities and Operations

will ensure responsible stewardship of NNSA facilities.

The changes are designed to consolidate oversight and assessment of security, safety and environmental issues at NNSA sites; establish clear and direct lines of communication for laboratory directors and plant managers; clarify the roles and responsibilities of NNSA headquarters and field offices; define clear lines of authority; establish greater personal accountability; and improve productivity and morale.

An implementation plan will be submitted to Congress by May 1, 2001. The reorganization is expected to be fully implemented by Oct. 1, 2001. Information on the proposed NNSA organization, programs, and facilities can be found on the revamped NNSA website at <http://www.nnsa.doc.gov>. ❖

Regional cooperation key to energy security

Secretary of Energy Spencer Abraham's first foreign trip to Mexico for the 5th Hemispheric Energy Initiative Ministerial Conference on March 8, 2001, was a success, with four major steps achieved to promote regional energy cooperation.

- Secretary Abraham and other Energy Ministers from North, South, and Central America approved the Mexico Declaration outlining opportunities and challenges for the region's energy sector and endorsed a message to their heads of state who met in Canada this month for the Summit of the Americas.
- North American energy issues were discussed at the first-ever trilateral meeting of Secretary Abraham, Mexican Energy Secretary Ernesto Martens and Canadian Energy Minister Ralph Goodale. The three ministers announced the formation of a North American Energy Working Group to begin

developing a comprehensive energy strategy.

- An Electricity Working Group was announced by Secretaries Abraham and Martens. The group will facilitate enhanced cross-border electricity trade between the United States and Mexico.
- On behalf of the United States, Secretary Abraham signed an agreement with Peru to facilitate energy cooperation between the two countries and invited the Peruvian Energy Minister for further talks in Washington, D.C.

In a speech to the Energy Ministers, Secretary Abraham stressed the importance of building relationships among our neighbors that will contribute to a shared energy security. "Today, no national energy policy is strictly national," he said. "It must look beyond borders and recognize the global nature of energy needs."

"Of course, we value the longstanding good relationships we

have built around the world," Secretary Abraham added. "But I am here today to say that this Administration intends to place at least as much emphasis on our relations with our neighbors here in the Western Hemisphere, as we do anywhere else on the planet.

"Our approach, therefore, is hemispheric; our goal, to build relationships among our neighbors that will contribute to our shared energy security and to adequate, reliable, environmentally sound, and affordable access to energy. This is the foundation for our own national security, and I believe a sound footing for all nations that seek economic growth to improve their citizens' quality of life."

The complete text of Secretary Abraham's speech is available at <http://www.energy.gov/HQDocs/speeches/2001/marss/mexico.html>. ♦

Clean coal investment pays off

An advanced, low-polluting coal combustion system, first pioneered in 1992-93 as part of the Department of Energy's (DOE) Clean Coal Technology Program, has become one of the Federal Government's fastest growing clean coal technology success stories. Sales of the "low-NOx concentric firing system" (LNCFS™) now top \$1 billion; the system is reducing nitrogen oxides (NOx) by nearly 40 percent in older coal burning plants; and, according to data compiled by the Department's National Energy Technology Laboratory, 56,000 megawatts of electricity are now being generated in the United States by power plants equipped with the system.

"Advances in clean coal technology allow us to use America's abundant coal reserves more efficiently and, at the same time, protect the quality of our environment," said Secretary of Energy Spencer

Abraham. "America's clean coal technology program will be an important part of the Administration's comprehensive national energy plan, along with significant investments for clean coal technologies the President will submit as part of the Administration's budget."

The advanced coal burner was first installed in 1992 by Alstom Power Inc., formerly ABB Combustion Engineering, on Gulf Power Company's Plant Lansing Smith in Lynn Haven, Fla. DOE paid for 49 percent of the project's total \$8.6 million cost, which included 19 months of test operations. The project was carried out jointly with Southern Company Services, the technology arm of The Southern Company, which owns the Lynn Haven power plant. The project was one of 40 demonstrations of technologies jointly funded by DOE, industry, and states in the Clean Coal Technology Program.

The advanced firing system blows air in a circle around a circular coal flame. Most of the coal burns in the inner zone where the amount of fuel greatly exceeds the available air. In this fuel-rich condition, nitrogen impurities released from the coal and the air have less of a chance of combining with oxygen to form NOx emissions. Installing separate air nozzles several feet above the main firing zone—another Clean Coal Technology innovation—creates an "overfire air" zone. The combination of the burner and separate overfire air reduces NOx by an average of 45 percent.

Commercial use of the advanced coal burner is expected to grow. According to NETL, there are some 423 power plants in the U.S. that have boilers suitable for the new technology. Details on the LNCFS™ technology are available at <http://www.fossil.energy.gov>. ♦

Department 'bytes' back on cyber intruders

More frequently, computer hackers are arriving in our offices and homes by penetrating network security systems. News headlines feature names like Coolio, Mindphaser, Nachoman, and Mixer and tell of teenagers possessing the technical know-how to ransack information from major companies and government institutions worldwide. But threats of more sophisticated attacks from terrorist organizations loom on the digital horizon.

In the past several years, the White House, Congress, Federal agencies, and the private sector have made substantial commitments to protecting the security of public and private computer networks. The Department of Energy (DOE) is overhauling its security program through the combined efforts of the Office of the Chief Information Officer and DOE line management.



Jeremiah Udy, Office of Independent Oversight and Performance Assurance, attempts a penetration of a field site's network from the new cyber security laboratory.

The Department's Office of Independent Oversight and Performance Assurance (OA) has developed a program of continuous cyber security oversight by evaluating the effectiveness of such programs throughout the DOE complex from its cyber security laboratory at Department Headquarters in Germantown, Md. OA's Office of Cyber Security and Special Reviews attempts penetra-

tions of Department computer networks with techniques similar to those used by a hacker or foreign intelligence entity to help identify vulnerabilities before an unauthorized user compromises the network.

In order to keep pace with advances in technology and expand its capability for covering additional Department sites, the original laboratory facility recently was upgraded and a second cyber security laboratory, established. Fully integrated, the two laboratories perform complimentary functions and optimize the ability of

OA's computer security experts to map Department networks, identify systems with vulnerabilities, and exploit security weaknesses to evaluate their significance. Feedback is provided to Department sites on ways to reduce or mitigate network vulnerabilities, improve protection measures, enhance security architecture, and increase the effectiveness of intruder detection systems. ❖

Technologies may boost oil, gas exploration

Scientists and engineers at the Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL) and the University of Arkansas have developed two new seismic source technologies that one day may enable safer and more economical oil and gas deep-ocean exploration. The devices are used to create shock waves that travel below the drill bit through the ground. The resulting acoustic data will allow drillers to gain insight into the location of high- and low-pressure areas before drilling.

The patent-pending Regenerative Combustion Source forms shock

waves by supplying hydrogen gas and then sparking it with an electric fuse. This creates a controlled explosion in the borehole, well below the ground. The second technology, Capacitive Discharge Source, uses an electric spark to create an arc. The result is a steam bubble that bursts, creating a shock wave.

The research team tested the technologies at a hydrology research park in Arkansas. Then they compared the results against standard commercially available technologies to see how well the new technologies performed.

The prototypes gave surprisingly good results. The researchers ac-

quired seismic reflection signals more than 160 feet away, which was better than anticipated. The power sources used were less than one-hundredth as powerful as those used commercially. More testing and field hardening of the sources are needed before the results become commercially viable. INEEL's industrial partners, Chevron and Halliburton, ultimately will decide if the sources are ready for commercial use.

The research is funded by the Department's Office of Fossil Energy through the Natural Gas and Oil Technology Partnership Program. ❖

Performance, accountability report receives 'clean' audit opinion

The Department of Energy's (DOE) Fiscal Year 2000 Performance and Accountability Report was submitted to the President, Congress and the Director, Office of Management and Budget, on the March 1, 2001, deadline with a "clean" audit opinion on the associated financial statements. The report also includes information on the status of the Department's management controls and program performance.

The financial statements, a major component of the report, received a clean opinion from the public accounting firm KPMG, which conducted the audit for the Department's Office of Inspector General. A clean opinion assures the taxpayers that DOE is accurately reporting on its financial condition and results of operations.

The timely submission of the Performance and Accountability Report with a clean audit opinion is a significant accomplishment. Last year, the Comptroller General congratulated DOE on improving its report and receiving a clean audit opinion. This year, DOE is the only Cabinet-level agency to get an "A" from Congressman Stephen Horn, who annu-

ally rates the 24 largest Federal agencies.

The Performance and Accountability Report is based on information in DOE's financial systems, attestations provided by managers in their assurance memorandums submitted pursuant to the Federal Managers' Financial Integrity Act, and performance measure reporting by Headquarters

organizations. Preparing a meaningful report requires the participation and accurate and timely reporting of all Headquarters and field offices.

A cooperative effort between the Offices of Chief Financial Officer (CFO) and Inspector General also is critical. Tight time frames for preparing and auditing the report intensify the need for the CFO and program offices to provide information for the



Chief Financial Officer Michael Telson (left) and Inspector General Gregory Friedman (right) present the Department's Fiscal Year 2000 Performance and Accountability Report to Secretary of Energy Spencer Abraham.

auditors expeditiously. The auditors' willingness to work closely with CFO staff contributed significantly to the Department's ability to meet the March 1 deadline.

Copies of the performance and accountability report are scheduled to be distributed to all DOE organizations. The report also is available at <http://www.cfo.doe.gov/progliaison/01arpt.pdf>. ❖

Recycled uranium historical studies released

The Department of Energy (DOE) has released nine site-specific studies that examine the historical movement from 1952 to 1999 of recycled uranium throughout the DOE complex. The studies are part of a comprehensive effort begun by the Department in September 1999 to address worker concerns at the Gaseous Diffusion Plants in Paducah, Ky.; Portsmouth, Ohio; and Oak Ridge, Tenn.

The reports cover the following 12 sites: Hanford, Wash.; Savannah River, S.C.; Idaho National Engineering and Environmental Laboratory, Idaho Falls; Fernald, Ohio (including

West Valley, N.Y.; Weldon Springs, Mo.; and RMI Inc., Ohio); Paducah, Ky.; Portsmouth, Ohio; Oak Ridge, Tenn.; Y-12 Plant, Oak Ridge, Tenn.; and Rocky Flats, Colo.

The reports provide a general understanding of the flow and characteristics of recycled uranium at individual sites. They identify where recycled uranium and trace amounts of other contaminants could have concentrated or been released.

Because of differing operational practices, different designations for recycled uranium used by the sites in historical records, and the exten-

sive blending operations used by the sites, there are data inconsistencies among the reports. Because of this, the numeric totals of the sites cannot be calculated to yield an accurate accounting of the amount of recycled uranium across the DOE complex. To resolve these inconsistencies, and build on historical records, the Department will conduct a follow-on study to develop a historical mass balance for uranium—including recycled uranium.

The reports and a project overview are available at <http://tis.ch.doe.gov/legacy/>. ❖

Nominations announced for key staff

President George W. Bush recently announced his intended nominations for several key Department of Energy positions:

- **Francis S. Blake** as Deputy Secretary of Energy. Blake presently is Senior Vice President of Corporate Business Development at General Electric (GE), where he has served since 1991. Before joining GE, he was a partner with the law firm of Swindler & Berlin in Washington, D.C., and was General Counsel at the Environmental Protection Agency from 1985 to 1988.
- **Robert Gordon Card** as Under Secretary of Energy. Card currently is President and Chief Executive Officer of Kaiser-Hill

Company in Colorado and previously was Executive Vice President of CH2M Hill, Inc.

- **Lee Sarah Liberman Otis**, General Counsel. Otis presently is Chief Counsel of the Senate Judiciary Subcommittee on Immigration, and, in the past, served as an Associate Counsel to President George H.W. Bush and in the Civil Division of the Department of Justice.
- **Jessie Hill Roberson**, Assistant Secretary for Environmental Management. Roberson currently is a member of the Defense Nuclear Facilities Safety Board and previously was Manager of the Department's Rocky Flats Field Office.

- **Vicki A. Bailey**, Assistant Secretary for International Affairs and Domestic Policy. Bailey presently is President, PSI Energy, Inc., Indianapolis, Ind. From 1993 to 2000, she served as a Commissioner on the Federal Energy Regulatory Commission.

- **Bruce Marshall Carnes**, Chief Financial Officer. Carnes currently is Deputy Director of Defense Financing and Accounting Services at the Department of Defense and previously served as Director of Planning, Budget and Administration at the Office of National Drug Control Policy.

The nominations are subject to Senate confirmation. ♦

Department assists Utah Olympic planners

Next February, many of us will be absorbed in watching the 2002 Winter Olympics in Salt Lake City, Utah. As the athletes compete, it may not cross our minds at that time of all the behind-the-scenes planning for such a large event.

More than 65 public and private organizations, including the Department of Energy (DOE), are working together now to develop quick responses to regional disruption and restoration of vital operations and services during the Olympics and in the future. The effort is being coordinated by the Utah Olympic Public Safety Command (UOPSC) and the state's Comprehensive Emergency Management Office (CEM). The organizations are members of an Infrastructure Protection Subcommittee and include all levels of government; energy, communications, and transportation companies; water suppliers; banks; food distributors; emergency managers; and medical, mass care, and law enforcement agencies.

The Department's Office of Critical Infrastructure Protection in the Office of Security and Emergency Operations is assisting with preparations for power outages and other disruptions

that could affect Utah's infrastructures and other critical services. A particular concern is that the power problems currently plaguing California could increasingly affect other Western states, including Utah. At the request of the UOPSC, the office also is providing technical support and experts from several DOE national laboratories to help with subcommittee activities.

Last November, the Department, UOPSC, and CEM cosponsored a first-of-its-kind exercise to focus on interdependencies among the region's infrastructures and ways to coordinate and enhance response and recovery plans. In "Black Ice," more than 225 public and private sector representatives addressed a scenario involving a major winter snowstorm that disrupts power, communications, transportation, and



Dr. Paula Scalingi, Director, DOE Office of Critical Infrastructure Protection, and two Utah state officials address the "Black Ice" exercise participants.

other critical services. DOE's Office of Critical Infrastructure Protection facilitated the exercise, helped design the scenario, provided necessary background materials, and produced the "lessons learned."

Taking the lessons learned from the exercise, the subcommittee is now on a fast track to develop recommendations for action. The Office of Critical Infrastructure Protection is assisting with quick implementation of the recommendations and helping Utah and its communities develop infrastructure guidelines to effectively handle emergency disruptions. ♦

Students get a lesson in advanced fuels research



Eight students from McKeesport Area High School in Pennsylvania recently got a preview of what it would be like to work in the high-tech research facilities at the Department of Energy's National Energy Technology Laboratory (NETL). The students toured NETL's Low Pressure Water Tunnel, Hydrogen Technology Research, and Sequestration and Hydrates Laboratories; the Particulate Matter 2.5 Monitoring Facility; and the Information Technology Division.

This spring, three of the students will be selected to come to NETL one day a week for six to eight weeks. Under the supervision of an NETL scientist or employee, they will work on projects such as carbon sequestration, natural gas hydrates, hydrogen research, and personal computer information services and networking.

The effort is part of the Federal Bureau of Investigation's Adopt-A-School program, which connects students with positive role models in the Federal Government. NETL is supporting the program in conjunction with the Pittsburgh Federal Executive Board. ❖

Energy-efficient table lamp shines light up and down



Researchers at the Department of Energy's Lawrence Berkeley National Laboratory have developed a new high-performance, energy-efficient table lamp. At full power, the lamp matches the combined luminous output of a 300-watt halogen lamp and a 150-watt, incandescent table lamp while using only a quarter of the energy.

The new lamp, shown at left without its shade, uses two independently controllable and fully dimmable fluorescent lamps. One lamp's light is directed downward, illuminating the table or desk; the other directs light up toward the ceiling, providing high-quality indirect lighting. An optical "septum" separates the two lamps, allowing three modes of lighting: downward lighting only, upward only, or up and down together.

Berkeley Lab has a patent pending on the new design. The laboratory is working with the Sacramento Municipal Utility District, Southern California Edison, and Pacific Gas and Electric to acquire and field-test the first production lamps based on the new high-performance design. ❖

'SafePatch' computer security project wins award



A team of computer scientists (at left) with the Information Operations Warfare and Assurances Center at the Department of Energy's Lawrence Livermore National Laboratory (LLNL) recently received a Government Technology Leadership Award for developing the "SafePatch" computer security tool. The awards are presented annually by Government Executive Magazine to encourage innovation and honor pioneering programs.

The majority of successful attacks and compromises of computer systems target vulnerabilities for which available software updates, or patches, have not been installed. With SafePatch, systems can be set to automatically check for and install new security patches on a regular schedule.

SafePatch was developed first for Unix Solaris systems and now also operates on Unix Linux (RedHat) systems. The tool already is operational within LLNL's Computer Incident Advisory Capability group and the Air Force Information Warfare Center at Kelly Air Force Base in Texas. Information on SafePatch is available at <http://www.ciac.org/cstc/>. ❖

Small business program a winner at West Valley

West Valley Nuclear Services Company (WVNS), the prime contractor at the Department of Energy's West Valley Demonstration Project in New York, has received the U.S. Small Business Administration (SBA) Award of Distinction. WVNS is one of five companies to receive the recognition this year in SBA's Area I.

The award recognizes WVNS for its "outstanding small business program, including meeting or exceeding subcontracting goals, outreach efforts, and management support." During fiscal year 2000, the company awarded 45 percent of its subcontracting dollars to small businesses, 21 percent to small disadvantaged businesses, and 9 percent to women-owned small businesses.

At the award ceremony are (l-r), Phil Weddle, Manager, WVNS Procurement and Support Services; Jannette Fasano, Area Director, Government Contracting, SBA Area I; Bob Campbell, President, WVNS; Joyce Spears, Commercial Market Representative, SBA; and Lynn Whiting, Small Business Utilization Officer, WVNS. ❖



Mini-robot actually turns on a dime

What may be the world's smallest robot is being developed by researchers at the Department of Energy's Sandia National Laboratories. It literally can "turn on a dime and park on a nickel."

At right, researcher Doug Adkins takes a close-up view of the mini-robot, which is 1/4 cubic inch in size and weighs less than an ounce. The autonomous untethered robot is powered by three watch batteries, rides on track wheels, and consists of an 8K ROM processor, temperature sensor, and two motors that drive the wheels.

The mini-robot eventually may be capable of performing difficult tasks that are done with much larger robots today—such as locating and disabling land mines or detecting chemical and biological weapons. Traveling about 20 inches a minute, the mini-robot has already maneuvered its way through a field of dimes and nickels. Enhancements being considered include a miniature camera, microphone, communication device, and chemical micro-sensor. ❖



Fernald site is a safety 'star'

The Department of Energy's (DOE) Office of Environment, Safety, and Health (EH) recently awarded DOE Voluntary Protection Program (VPP) Star status to Fluor Fernald, managing contractor of the Department's Fernald Environmental Management Project in Cincinnati, Ohio. The Voluntary Protection Program promotes safety and health excellence through cooperative efforts among labor, management and government at DOE sites. Star status is the program's highest honor and is given in recognition of outstanding performance in safety and health.

"The Fernald Environmental Management Project has established such a strong safety culture that both management and employees clearly share the belief that all Fernald employees are both responsible and accountable for safety and health in the workplace," said Joseph E. Fitzgerald, Jr., former Deputy Assistant Secretary for Worker Health and Safety.

At right, DOE, Fluor Corporate, and site management representatives display the VPP Star Site flag, which was formally raised at the Fernald site on March 13, 2001. ❖



Site advisory boards give citizens a voice

The Environmental Management (EM) Site-Specific Advisory Board (SSAB) was established by the Department of Energy (DOE) in 1994 to increase citizen participation in the Department's cleanup of its former nuclear weapons production sites. The EM board is one of nearly two dozen DOE advisory committees chartered under the Federal Advisory Committee Act. The EM SSAB is managed under one overall charter and operates through local site-specific advisory boards—known as citizens or community advisory boards—at 10 Department sites across the country.

The local boards reflect a diversity of views, cultures, and demographics from communities and regions surrounding DOE cleanup sites. Members include representatives from local governments, Tribal Nations, environmental and civic groups, labor organizations, industry, and universities, as well as local citizens.



Local EM Site-Specific Advisory Boards focus primarily on environmental restoration, waste management, and technology development activities involving DOE cleanup and closure sites. The boards provide advice and recommendations on strategic decisions that impact future use, long-term stewardship, risk management, transportation, and budget prioritization. Board meetings are open to the public and provide a forum for community members to voice their opinions. Technical and policy advice from the local boards have contributed to decisions that have saved billions of

dollars and streamlined schedules at various sites.

The EM Site-Specific Advisory Boards recently collaborated on a Statement of Common Values, the first time that the 10 boards reached consensus on an issue. The statement describes the purpose of the ad-

visory boards and, more importantly, what the boards expect when DOE and regulatory agencies make cleanup and long-term stewardship decisions for their respective sites.

“Agreement on a consensus Statement of Common Values is a significant milestone for the local SSABs,” says Martha Crosland, Director of EM’s Office of Intergovernmental and Public Accountability. “These consensus principles will help guide the Boards and the Department in decision-making for years to come.”

Additional information on the EM Site Specific Advisory Boards is available at <http://www.em.doe.gov/public/ssab/>. ❖

Successful book drive helps needy school

Students at Brown Elementary School in Denver, Colo., no longer have to look too far to find something to read. Employees of the Department of Energy’s (DOE) Golden Field Office, Denver Regional Office, and National Renewable Energy Laboratory (NREL) collected 1,246 books to donate to Brown, a school that desperately needed books.

On March 2, the employees delivered and presented the books to the school as part of the National Education Association’s “Read Across America Day” and Dr. Seuss’ 97th birthday. The employees also spent time reading to students, including some in bilingual classrooms.

“It was truly an eye-opener,” said Principal George Schnittgrund. “We don’t expect that kind of philanthropy. That’s the first time that’s ever happened here, happened to me. For a government agency to be involved, that makes me feel good.”

The books were collected in an annual drive during the month of February. The theme of this year’s drive was “Don’t Overlook, Drop A Book, Books Have Power Too.” In the past two years, DOE and NREL employees in Golden have collected more than 3,200 new and used books to give to needy Denver-area schools. ❖



Christine Phoebe, Assistant Manager, Golden Field Office, reads to kindergartners.

Savannah River retires top canine officer

Canines and handlers were aplenty at the Department of Energy's Savannah River Site (DOE-SRS) during the United States Police Canine Association's (USPCA) Region 2 Detector Dog Trials, March 12-17, 2001. The event was cosponsored by the Savannah River Site, Wackenhut Services, Inc., and local law enforcement agencies.

The United States Police Canine Association is the largest and oldest organization dedicated to the use of canine resources by law enforcement agencies. At the Detector Dog Trials, over 50 canine teams, representing numerous local law enforcement agencies in North and South Carolina, sought canine certification in explosives and narcotics detection and canine tracking.

A highlight of this year's trials was the retirement of DOE canine officer Rocky after six years of service. During his career, Rocky, a Belgian Malinois, earned numerous awards with his Canine Handler David Harman. In 1997,



Rocky and Canine Handler David Harman, Wackenhut-Savannah River Site, are flanked by some of the two dozen trophies and awards the team earned for superior performance.

Officer Harman and Rocky were named the top Patrol Dog Team in the United States by the USPCA; and in 1998, Rocky was inducted into the South Carolina Veterinarians Hall of Fame.

In a ceremony befitting a top dog, Rocky was officially retired from service and the reins passed to Handler David Harman, who has adopted him. "Rocky and David Harman set a benchmark, an exemplary standard of performance, for DOE's Canine Program," said Gary Vest, Office of Safeguards and Security, DOE Savannah River. "The DOE-SRS Canine Program is fortunate to have other canines and handlers just as dedicated to the Department's security missions."

Savannah River's canine program is the largest within the Department of Energy complex. In addition to providing a first line of defense in the protection of DOE resources, the program has historically provided mutual aid assistance to local law enforcement agencies upon request. ❖

NEW ON THE *Internet*

Science video clips

The website of the Visual Media Services group at the Department of Energy's Fermi National Accelerator Laboratory has over 150 free video clips on particle physics, as well as other branches of science, available in streaming video format. The video-streaming technology has made it possible for scientists around the world to listen to presentations by their Fermilab colleagues. Although about half of the presentations are technical lectures aimed at the specialist, the other half are for non-scientists, including the "Physics for Everyone" and "Nature of Science" series. Accessing the collection requires a computer with a 56k modem and the RealPlayer software, version 7.0 or higher. The site address is

<http://www-visualmedia.fnal.gov>, click on "Streaming Video." A list of 10 short videos for the non-scientist is available at http://www-visualmedia.fnal.gov/VMS_Site/gallery/v_selectProg.html.

Natural gas center

The Strategic Center for Natural Gas at the Department of Energy's (DOE) National Energy Technology Laboratory has a new website, <http://www.netl.doe.gov/scng>. The center is dedicated to integrating the Department's natural gas research and development "from borehole to burner tip." The website includes information about DOE natural gas technology areas, including exploration and production, transmission, distribution and storage, and process-

ing and end-use, and a section devoted to natural gas strategic planning and policy support.

On-line property sales

Westinghouse Savannah River Company, management and operations contractor for the Department of Energy's Savannah River Site, recently completed a six-month pilot in which numerous excess items were sold in auctions at two commercial Internet sites. (*DOE This Month*, December 2000). Over 90 percent of the items offered were sold, many with a recovery value of 25 to 30 percent. To view the two sites currently posting items, log on to the Web at <http://www.tradeout.com> or <http://www.bid4assets.com> and use the keyword "WSRC" in the search field. ❖

Sites on track as environmental leaders

Five Department of Energy (DOE) facilities have been accepted as charter members in the Environmental Protection Agency's (EPA) National Environmental Achievement Track program. The facilities are the Kansas City Plant, Strategic Petroleum Reserve, Waste Isolation Pilot Plant, West Valley Demonstration Project, and Western Area Power Administration. A total of 228 public and private U.S. facilities were named charter members.

The National Environmental Achievement Track program recognizes and rewards organizations for achieving high levels of environmental performance. To be accepted, an organization must:

- have a strong Environmental Management System in place;
- commit to continuous improvement;
- commit to public outreach and performance reporting; and
- achieve a record of sustained compliance with environmental regulations.

DOE had more sites recognized than any other Federal agency. The facilities documented improved performance over past achievements in specific areas and committed to additional improvements over the next three years. Cited improvements include reductions in air emissions of toxic chemicals, waste streams, disposal costs, and the generation of

hazardous solid waste. Future commitments include support of the Upper Colorado River Endangered Species Recovery Program and reduction in water and energy use.

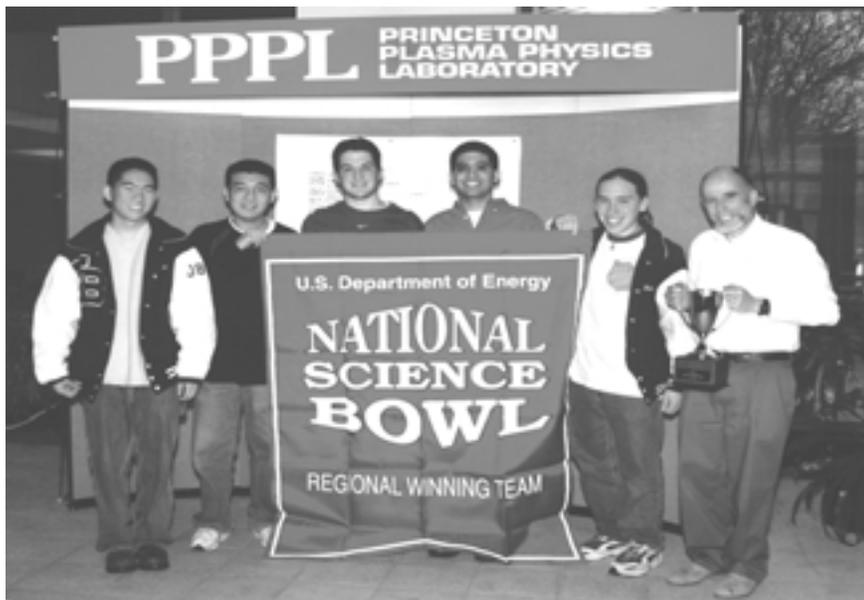
As charter members of the program, the five facilities will have several benefits, including use of the National Environmental Performance Achievement Track logo; visibility in EPA publications, web sites, and events; access to information to lower costs and support further improvements; and streamlined reporting requirements. Additional information on the program is available at <http://www.epa.gov/performance-track>. ♦

Research DIGEST

The Department of Energy's **Pacific Northwest National Laboratory** (PNNL) and the University of Maryland recently announced the establishment of the Joint Global Change Research Institute to investigate the scientific, social, and economic implications of climate change, both nationally and globally. The new institute, to be located in a university-managed research building adjacent to the campus in College Park, will bring together some 25 PNNL climate change researchers now based in Washington, D.C.—including well-known scientists Bill Chandler and James (Jae) Edmonds—with many top Maryland faculty and research scientists, including research pioneer Konstantin Vinnikov. “By combining the capabilities of our two institutions, we expect to have a powerful impact on the study of global climate change,” said Lura Powell, PNNL Director. “Maryland has strong research interests close to our own, and an understanding of exactly the collaboration we have in mind.” (Greg Koller, 509-372-4864)

Researchers at the Department of Energy's **Ames Laboratory** have refined a process that makes it commercially viable to recover a valuable rare-earth element from tons of stockpiled magnetic scrap. High-energy neodymium-iron-boron (Nd-Fe-B) magnets are used extensively in automotive, consumer electronics, and biomedical applications. The Nd-Fe-B material is quite brittle, so a substantial amount of waste remains beyond the amount normally generated during machining and handling. The magnet scrap contains about 29 percent neodymium, valued at \$30 per kilogram and worth recovering. Current recovery methods are complex, expensive, and impractical for large-scale, commercial recycling. The Ames process immerses magnet scrap in 800°C. liquid magnesium, which leaches the neodymium from the scrap. The resulting magnesium-neodymium alloy can be used as feed material for the magnesium casting industry; and the remaining iron-boron also can be recycled. (Kerry Gibson, 515-294-1405)

A research team working at the Department of Energy's **Brookhaven National Laboratory** has determined the three-dimensional structure of a key protein on the bacterium that causes Lyme disease. Called OspC, the protein is derived from two strains of the Lyme disease bacterium *Borrelia burgdorferi*. The research may lead to a second-generation vaccine that would be more effective than the current one. The current vaccine is based on another Lyme disease protein, known as OspA, which previously was deciphered at Brookhaven. Lyme disease, spread by the bite of an infected deer tick, is the most common vector-borne disease in the United States. The scientists believe a vaccine based on OspC will be more effective because the OspA protein is only present in the bacteria in a deer tick's stomach, not in an infected host. The bacteria produce OspC in the host's bloodstream. An OspC-based vaccine would enable the host to make antibodies to kill the Lyme disease bacteria. (Diane Greenberg, 631-344-2347) ♦



For the second year in a row, East Brunswick High School won the New Jersey Regional Competition of the National Science Bowl®. The competition was sponsored by the Department of Energy (DOE) and hosted by DOE's Princeton Plasma Physics Laboratory. Twenty-two teams from 19 high schools in New Jersey and Pennsylvania competed in the double-elimination tournament. The winners will face high school teams from across the country at the Department's 11th National Science Bowl, May 4-7, 2001, at the National 4-H Center in Chevy Chase, Md. The East Brunswick team includes (l-r) students John Lai, Jack Qian, Adam Rothman, Naveed Ahmad, Aaron Tarnow, and coach Paul Kimmel.

Students experience hands-on engineering

National Engineers Week was celebrated across the United States Feb. 18-24, 2001. In commemoration of the annual observance, each year many Department of Energy sites across the country traditionally sponsor and participate in activities in their local communities to introduce students and the general public to engineering and technology. This year's activities included:

- From Feb. 20 through March 2, active and retired scientists and engineers from the **Savannah River Site** in South Carolina visited local middle schools to conduct experiments and hands-on demonstrations with students, giving them a taste of what it feels like to solve engineering challenges. The site has observed the week since 1951, and approximately 230 employees conducted teach-ins at 58 schools in 10 counties this year.
- Twelve area high school students participated in Engineering Day, Feb. 21, at **Princeton Plasma Physics Laboratory** in

New Jersey. The students learned such things as hooking up necessary hardware for a teleconference meeting, collaborating with engineers and physicists on projects, and producing engineering designs on a computer. Individual students were assigned to "walk in the shoes" of laboratory engineers.

- Engineers, scientists, and other employees at the **Hanford Site** in Washington took part in several activities in the local community. These included Discover "E" hands-on experiences with robotics and other technologies in local classrooms, demonstrations and exhibits at a local shopping mall, a Boys and Girls Club after-school program, and engineering competitions.



South Carolina students participate in a hands-on science demonstration presented by the Savannah River Site during National Engineers Week.

- The Bradbury Science Museum at the **Los Alamos National Laboratory** hosted discussions and hands-on activities for the public and students on such topics as achievements in space and explorations of the solar system, the Cassini Mission to Saturn, engineering challenges of constructing a supercomputer complex, and building suspension bridges. ♦

People IN ENERGY

Jeffrey K. Cravens is the new Director of the Assessment and Emergency Management Division at the Department of Energy's Oak Ridge Operations Office. Cravens will be responsible for developing effective and efficient emergency management programs and guidance applicable to all Oak Ridge Operations programs and contractors, assessing the effectiveness of environment, safety and health activities, and providing quality assurance support services.



Anthony Schaffhauser has been named Director of the new Distributed Energy Resources Center at the Department of Energy's National Renewable Energy Laboratory. Schaffhauser was the former Director of the Energy Efficiency and Renewable Energy Program at the Department's Oak Ridge National Laboratory. The new center will focus on speeding development of small, decentralized generating units located near electricity customers and interconnectivity systems that enable electricity from various sources to flow onto the power grid.

David M. Cooper, Associate Director for Scientific Computing and Chief

Information Officer at the Department of Energy's Lawrence Livermore National Laboratory, has been invited by President George W. Bush to continue to serve on the President's Information Technology Advisory Committee. Cooper co-chairs the Advisory Committee's High Performance Computing and Communications Subcommittee.

Pamela Thompson has been named Project Manager for the Department of Energy at its Weldon Spring Site Remedial Action Program in St. Charles, Mo. Thompson will be responsible for managing site-wide environmental cleanup operations at the former uranium processing and chemical plant and will provide leadership to Federal and contractor staff on the project.



Two scientists at the Department of Energy's Argonne National Laboratory have been elected Fellows of the American Physical Society: **Geoffrey T. Bodwin**, High Energy Physics Division, and **Efim Gluskin**, Director, Experimental Facilities Division. The society limits fellowship to no more than one half of one

percent of the current membership each year.

Scientist **Michelle Thomsen**, Space Physics Team Leader in the Space and Atmospheric Sciences Group at the Department of Energy's Los Alamos National Laboratory, has been named a Fellow of the American Geophysical Union. Thomsen was elected for her fundamental contributions to the physics of collisionless shocks and the Jovian and terrestrial magnetospheres.

Chemist **M. Irene Spaletto** of the Chemical Analysis Division at the Department of Energy's New Brunswick Laboratory (NBL) has received an Award of Appreciation from the American Society of Testing and Materials for her outstanding service and participation in the nuclear fuel cycle work of the society's C-26 Committee. Spaletto joined NBL in 1982 and for years has served as Manager of the Measurement Evaluation Program. Her current work focuses on uranium and plutonium Certified Reference Materials, training, nuclear safeguards assistance, and chemical analyses of nuclear materials. ♦



COMING Events

June 18-22 2001 Department of Energy (DOE) Pollution Prevention (P2) Conference, Albuquerque, N.M. Sponsored by DOE, the Department's Los Alamos and Sandia National Laboratories, and the Waste-management Education and Research Consortium. The conference is structured to expedite progress toward a pollution-free DOE; topics include ISM/EMS integration, technology

development, energy efficiency, and strategies. Additional information is available at <http://p2.werc.net>. Questions can be e-mailed to p2conference@lanl.gov.

July 17-19 Environmental Restoration Technology End User Conference, Atlanta, Ga. Cosponsored by the Department of Energy's Savannah River Operations Office (DOE-SR),

the Department of Defense, and the Environmental Protection Agency Region IV. Environmental experts will share success stories and lessons learned on deployment of innovative environmental cleanup technologies. For more information, contact Rita Stubblefield, DOE-SR, 803-725-2680, rita.stubblefield@srs.gov, or visit <http://www.srs.gov/general/srenviro/erd/tec/tec2001.html>. ♦

Milestones

YEARS OF SERVICE

April 2001

Headquarters

Chief Financial Officer - Philip R. Pegnato (30 years). **EIA** - Daniel C. Adkins (30), Edward J. Flynn (30), Louise A. Guey-Lee (30), James B. Tobin (30). **Energy Efficiency** - Ronald W. Bowes (30), Mark E. Decot (25). **Envir. Management** - William H. H. King (30), Anthony F. Kluk (30), Jeffrey J. Short (25). **Envir., Safety & Health** - William D. Jackson (35), Thomas E. McSpadden (30).

FERC - James B. Caruso (30), William Y. Guey-Lee (30), Patricia A. Morton (30), Andrew M. Sakallaris (30), Cecelia M. Williams (30), Robert A. Flanders (25), Edward C. Gallick (25), Robert J. Lynch (25), Seth R. McKittrick (25), Karen A. Venit (25). **Fossil Energy** - Georgia A. Benjamin (30), Estelle W. Hebron (30), John Shen (25).

Inspector General - Peggy A. Ireland (30), Sanford J. Parnes (25). **Management & Administration** - Marie E. Hallion (30),

Daniel M. Steckler (30), Rochell Talley (30), Robert G. Joyce (25), Marlene P. Snyder (25). **NNSA** - Stafford M. Mishoe (25). **Radio-active Waste** - Jacqueline M. Chestnut (25). **Science** - Walter L. Sadowski (40), Janice S. Pitsenbarger (35).

Field

Albuquerque/NNSA - Lowell P. Little, Jr. (35), John P. Arranaga (30), John V. Iuculano (25), Angela L. Scheurenbrand (25), Edward J. Sullivan (25), Bernard J. Tye (25), Juan D. Williams (25). **Chicago** - Sherida L. Cobbs (30), Gaile A. Higashi (25), Ross A. Hollibaugh (25), Nicholas Torres (25).

NETL - Larry E. Cross (30), Richard R. Anderson (25), Stephen K. Beer (25), Lynda T. Berardi (25), Ronald L. Cutright (25), Robert J. Gormley (25). **Oak Ridge** - Nina E. Boyer (35), Gabriel J. Marciante (30), Glenford A. Newtown, Jr. (30), Donna J. Phillips (25), Diana F. Shamblin (25). **Oak Ridge/NNSA** - Jerry W. Robertson (25).

Oakland/NNSA - Bernice D. Pelicas (35), Edward B. Frigillana

(30). **Rocky Flats** - Gary W. Dreith (25). **Savannah River** - Donald N. Bridges (35), Morris James (25), Sherrill S. Norton (25). **Southwestern Power** - Loyd D. Hines (30). **Western Area Power** - James L. Bandmann (30), Phillip M. Davis (30), Michael R. Sibal (30), Ross E. Armstrong (25).

Bonneville Power - Penelope R. Hiatt (35), Eutimio J. Atencio (30), Leo E. Baker (30), George T. Birchman (30), Michael J. Borrows (30), Robert M. Duncan (30), Craig W. Hovey (30), James A. Marino (30), Paul A. Pompili (30), Donald A. Slater (30), Linda M. Balthazar (25), Walter D. Emerson (25), David A. McMullen (25), David E. Mills (25), Deborah K. Ross (25), Marta M. Salazar (25), Thomas C. Westbrook (25).

RETIREMENTS

March 2001

Headquarters

Chief Financial Officer - Thomas W. Dehanas (30 years). **Science** - Alan L. Dragoo (39).

Field

Oakland/NNSA - Ronald F. Sommer (34). ❖

NEW Publications

Office of Inspector General (IG) reports: *The U.S. Department of Energy's Corporate Human Resource Information System* (DOE/IG-0494); *The Need for the Atlas Pulsed Power Experimental Facility* (DOE/IG-0495); *Sale of Enriched Uranium at the*

Fernald Environmental Management Project (DOE/IG-0496); *Inspection of Concerns Relating to the Management of the Savannah River Operations Office Learn/Power Information System* (DOE/IG-0497); *Inspection of Lawrence Livermore National Laboratory*

Credit Card Usage and Property Management Concerns (INS-0-01-01); *Utilization of the Big Explosives Experimental Facility* (WR-B-01-03). Available from the U.S. Department of Energy, IG Reports Request Line, 202-586-2744; or electronically at <http://www.ig.doe.gov/>. ❖

Department welcomes 80th Clean Cities member

On March 19, 2001, the Department of Energy designated the Triangle Clean Cities Coalition as the 80th member of its Clean Cities Program. The coalition serves the Raleigh-Durham-Chapel Hill region of North Carolina.

"The Clean Cities program helps raise awareness to improving air quality, strengthening the local economy, and enhancing public awareness of alternative fuels," said Secretary of Energy Spencer Abraham. "I congratulate the many contributors that have come together to establish the first U.S. Department of Energy Clean Cities coalition in North Carolina."

Clean Cities is a voluntary, public-private partnership program designed to reduce U.S. dependence on imported oil, improve local air quality, and stimulate local economies by increasing the use of alternative fuels and alternative fuel vehicles. The program creates an effective plan for developing a sustainable, nationwide alternative fuels market.

Partners in the Triangle Clean Cities Coalition include the Triangle Council of Governments; the State of North Carolina; Duke Power; Carolina Power and Light; Duke and North Carolina State Universities; the Cities of Raleigh and Durham; the Town of Chapel Hill, and others.

April 2001

AROUND DOE

Livermore to help reduce chemical weapons threat

The Departments of Energy (DOE), Defense, and State have requested DOE's Lawrence Livermore National Laboratory in California to become the second United States laboratory for certification by the Organization for the Prohibition of Chemical Weapons (OPCW). Livermore Lab was selected because of its cutting-edge Forensic Science Center and capabilities for ultratrace chemical analysis, state-of-the-art environmental controls and facilities, and physical security.

Under the terms of the international Chemical Weapons Convention, all samples must be analyzed at two OPCW-designated laboratories. In addition, the United States Congress mandates that all U.S. samples must be tested in the United States. The other U.S. certified facility is the Edgewood Chemical and Biological Forensic Analytical Center in Maryland.

WIPP facility workers reach safety milestone

Workers at the Department of Energy's Waste Isolation Pilot Plant (WIPP) in New Mexico reached a safety milestone Feb. 19, 2001, by working two million man-hours without a lost-time accident. The safe hours include those worked by employees of the Department, management and operating contractor Westinghouse TRU Solutions LLC (WTS), and other contractors associated with the facility.

"Safety is at the core of all WIPP operations," said Dr. Inés Triay, Manager of the Department's Carlsbad Field Office. "We are particularly pleased that WIPP workers reached the two million mark during the time in which they mined a new panel and increased shift work."

The Safety Management System at the facility is an integral part of the conduct of operations. Safety is included in the planning and work stages of all projects. There also is a feedback mechanism for continuous improvement that includes a "lessons learned" component.

"WIPP provides some of the best training in the world to its employees. They are trained to identify hazards and protect themselves" said Candice Jierree, WTS Environment, Safety and Health Manager. "Our next goal is three million hours, and we hope to continue on from there." ♦

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

Official Business