



The Office of Fossil Energy: Striving for Environmental, Security, Safety and Health Excellence

Annual Report Fiscal Year 2007



Office of Environment,
Security, Safety and
Health

A Letter From The Secretary

April 2008



The Department of Energy's mission is to advance the national, economic, and energy security of the United States. Inherent in this security mission is the responsibility to protect our workers, the public and the environment through comprehensive state-of-the-art safety programs.

I have long recognized the importance of health, safety and security functions to an organization. As Secretary of Energy, with its important national security responsibilities, I am personally committed to ensuring that all Departmental activities are performed in a safe, healthful and environmentally sound manner.

A strong commitment to workplace safety and environmental protection can be found at all levels of management and in offices throughout the Department of Energy. The Office of Fossil Energy takes this commitment seriously.

It is my pleasure to share with you the fiscal year (FY) 2007 Environment, Security, Safety and Health (ESS&H) Annual Report for the Office of Fossil Energy. Recognized as a leader in ESS&H programs, the Office of Fossil Energy has won awards from the Occupational Safety and Health Administration, the National Pollution Prevention Roundtable, and the U.S. Environmental Protection Agency Performance Track, as well as numerous State awards.

This annual report highlights some impressive accomplishments for the Office of Fossil Energy over the past year. For two out of the three major accident/injury indicators, rates have decreased significantly for the Office of Fossil Energy. In the area where improvement is needed, new procedures and equipment have recently been implemented to promote the highest level of workplace safety and security.

The Office of Fossil Energy has also expanded the scope of employee safety and security to provide hands-on training courses, institute new security protocols, and improve emergency response procedures and practices. In addition, the Office of Fossil Energy continues to ensure that all activities minimize adverse impacts on the environment.

FY 2007 was an outstanding year for ESS&H in the Office of Fossil Energy, characterized by the daily commitment and dedication of its employees and management to promoting workplace safety and environmental responsibility. I applaud their commitment to our Department-wide safety and security goals.

A handwritten signature in black ink that reads "Samuel W. Bodman".

Samuel W. Bodman
Secretary
Department of Energy

A Letter From The Acting Principal Deputy Assistant Secretary

April 2008



I am pleased to present to you the Office of Fossil Energy's 2007 Annual Report on Environment, Security, Safety and Health (ESS&H). The Office of Fossil Energy (FE) plays an important role in ensuring that our Nation can continue to rely on traditional resources for clean, affordable energy. During FY 2007, FE addressed a number of challenges while continuing to commit itself to strong Environment, Security, Safety and Health programs. It is my pleasure to share with you FE's achievements in FY 2007.

FE employees demonstrate their commitment to ESS&H in every task they undertake. In FY 2007, FE worked to successfully integrate the safety of its employees, the public, and management into an integrated safety management (ISM) system. More specifically, the sites developed frameworks and plans to implement ISM principles, actively engaged senior management in site operations, and exchanged best practices. FY 2007 was also marked by the development of ISM System Descriptions by FE Headquarters and FE sites. In addition, FE completed a Quality Assurance Independent Management Assessment, and will conduct ISM Verifications at each site during 2008.

At FE, the health and safety of our employees continues to be our highest priority. Each employee can contribute to an improved safety record by searching for new ways to make our workplace safer. In addition, FE will continue to refine our hazard prevention training programs and exercises, seek out industry-wide best practices, and maintain recognition as superior performers by external organizations such as the U.S. Environmental Protection Agency, the Occupational Safety and Health Administration, and the International Organization for Standardization. FE sites also continue to receive recognition by winning prestigious national and state awards.

During FY 2007, FE has also focused on an enhanced security and emergency preparedness posture. We continue to work with local first responders and law enforcement agencies to ensure that in the event of an emergency, we can work seamlessly with our local communities. FE also enhanced its infrastructure during FY 2007 by continuing to upgrade for hurricanes and other potential disasters. For the year ahead, we want to continue improving our already strong ESS&H programs and practices.

I take great pride in the many achievements highlighted in this report and the continued dedication of FE employees who make these achievements possible. We now invite you to review our annual performance and would appreciate any of your suggestions for improving our ESS&H programs.

A handwritten signature in black ink, appearing to read 'James A. Slutz', with a stylized flourish at the end.

James A. Slutz
Acting Principal Deputy Assistant Secretary
Office of Fossil Energy

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I. Introduction

The Department of Energy's Office of Fossil Energy (FE) is dedicated to the continual supply of affordable, secure, and environmentally sound fossil energy to the United States. FE's mission is both to ensure that the nation can continue to rely on clean, affordable energy from our traditional fuel resources and to meet the nation's energy security needs. FE is working on a variety of projects to provide reduced emissions from coal-fueled power plants, more productive oil and gas fields, and the continued readiness of Federal emergency oil stockpiles.

FE has clearly articulated in its Environment, Security, Safety and Health (ESS&H) Commitment Statement its dedication to maintaining strong security and emergency preparedness programs; protecting the health and safety of its employees; promoting environmental protection and pollution prevention activities; adopting high standards of performance; encouraging worker participation; facilitating community participation; and ensuring both management and employee accountability.

This report summarizes FE's ESS&H performance for fiscal year (FY) 2007, and includes data from the National Energy Technology Laboratory (NETL) including NETL-Albany; the Strategic Petroleum Reserve (SPR); the Rocky Mountain Oilfield Testing Center (RMOTC); and FE Headquarters (HQ). Chapter I introduces the document and the FE sites. Chapter II is a comprehensive overview of the key ESS&H accomplishments in FY 2007. Chapter III presents quantitative results of the FE-wide performance for key Environmental Safety & Health (ES&H) performance indicators. Finally, Chapter IV outlines key challenges, plans, and initiatives for improvement during FY 2008.

The FE Sites

FE employs more than 2,500 Federal employees, contractors, and subcontractors, and is composed of engineers, scientists, technicians, and administrative staff. FE is headquartered in Washington, DC and Germantown, Maryland with FE field sites located in Morgantown, West Virginia; Pittsburgh, Pennsylvania; Tulsa, Oklahoma; New Orleans, Louisiana; Casper, Wyoming; Albany, Oregon; and Fairbanks, Alaska.

FE continues to explore diversified ways to obtain supplies of gas in the future, maintain and increase the United States' petroleum reserves, and lead state of the art research and development focused on fossil energy and technology research.



NETL-Albany employees removing dross from an aluminum melting furnace.

One of FE's field sites, NETL, has the distinction of being the only U.S. national laboratory devoted solely to fossil energy research. With expertise in coal, natural gas, and oil technologies, as well as in analysis of energy systems and international energy issues, NETL has remained a front-runner in the fossil energy field. Combining its federally-owned laboratory research and development with R&D partnerships (industry, university, and other government entities), NETL has built

strong relationships that promote affordable energy solutions in America.



NETL works with fuel cell contaminants in the lab.

NETL's primary missions include enhancing America's energy security; improving the environmental acceptability of energy production and use; increasing the competitiveness and reliability of U.S. energy systems; and ensuring a robust U.S. energy future. To achieve this goal, NETL conducts a variety of research on topics including secure and reliable energy; coal, oil, and natural gas efficiency; the future role of hydrogen; clean power generation from coal; global climate change; and critical infrastructure assurance.

Of note, during FY 2007, NETL received three prestigious R&D 100 Awards from R&D Magazine for its in-house innovations. Additionally, four awards are going to products developed by research partners who were supported by NETL. The R&D 100 Awards are for the 100 most technologically-significant products introduced into the marketplace in the last year.

NETL sites are located in Morgantown, West Virginia; Pittsburgh, Pennsylvania; Albany, Oregon; Tulsa, Oklahoma; and Fairbanks, Alaska. With more than 1,100 Federal and contractor employees involved with onsite research activity, NETL manages more than 1,800 projects in the United States and more than 40 foreign countries. The contract value of

NETL projects is more than \$9 billion and private sector cost-sharing is more than \$5 billion.

NETL is also involved in several national high priority environmental and energy security initiatives. Some of NETL's initiatives involve looking at key research opportunities and partnerships to develop flexible, low-cost solutions to reduce greenhouse gas emissions and sequester and permanently store carbon dioxide. NETL also seeks to ensure the reliability of natural gas and oil in the U.S. For example, NETL funded a pipeline robot, the Explorer II, that maneuvers through gas lines searching for pipeline leaks and defects. This self-propelled robot hopes to revolutionize the inspection process.



Operations personnel operate valve at Well Head at a SPR site.

SPR is a DOE-owned, contractor-operated complex of five sites located in the Gulf Coast region. Storing oil deep within salt dome "caverns," the SPR is a secure and cost-

effective way to store millions of barrels of oil on reserve. In total, SPR is comprised of 62 underground caverns. The primary onsite contractor for the SPR is DynMcDermott. The primary function of the SPR is to maintain the readiness of the oil stockpile for emergency use at the President's direction.

Headquartered in New Orleans, Louisiana, the SPR's Project Management Office (PMO) oversees the operation of four sites: Bayou Choctaw and West Hackberry in Louisiana, and Bryan Mound and Big Hill, in Texas. In the event of an emergency, the central location of the four sites guarantees the easy distribution of oil through interstate pipelines to almost half of the Nation's oil refineries. In addition, the SPR's location ensures ready and easy access to ships or barges for transport to other areas of the U.S.

Today, the SPR is the largest emergency oil stockpile in the world. A typical oil cavern ranges in size between six and 35 million barrels. The Energy Policy Act of 2005 authorized the Secretary of Energy to expand the SPR to a capacity of one billion barrels. On February 14, 2007, the Record of Decision was signed authorizing three sites (two current and one newly created) for the SPR expansion. Big Hill, Texas will be expanded by 80 million barrels, and Bayou Choctaw, Louisiana will be expanded by 23 million barrels. In addition, a fifth site, located in Richton, Mississippi, was also selected. SPR rolled out its Expansion Plan in June 2007, with DOE expansion efforts slated to begin in FY 2008. President Bush also referred to an additional initiative to expand the capacity to 1.5 billion barrels during his State of the Union address in January 2007.

The SPR also manages the Northeast Home Heating Oil Reserve, which has about two million barrels of fuel oil at three sites in the Northeast. With nearly 70% of homes in the Northeast relying on heating oil to heat their homes, it is important to maintain this reserve,

especially in the event of a home heating oil disturbance during the winter months.

RMOTC, located near Casper, Wyoming, is a 10,000-acre oilfield offering approximately 1,200 well bores and 600 producing wells in nine producing reservoirs that range in depth from 500 to 5,000 feet. Owned and operated by the federal government, RMOTC provides organizations the opportunity to field test their innovations in a real world setting, thereby contributing to the nation's energy security, economic well-being, and energy technological leadership.



At RMOTC, a workover rig performs well maintenance.

RMOTC partners with companies and private manufacturers to test, evaluate, and demonstrate new ideas and technologies in the oil and gas industry; with environmental companies to find ways to manage, mitigate, and prevent environmental risks; with national laboratories and government organizations to test their innovations in a real-world setting; and

with universities for practical application of their work and conducting research.

Currently, RMOTC is continuing to grow by customizing their services to fit customer needs. For example, RMOTC is testing services for new technologies in coal bed methane, produced water management, and carbon management. In addition, RMOTC offers a comprehensive testing ability service, which includes the capacity for tests on improved oil and gas production and drilling, renewable

energy (mainly geothermal, solar, and wind), tests for bioremediation, wetlands creation, petrophysics, and options for preventing and managing environmental risks.

Recently, RMOTC extended its capabilities in the field of real-world environmental testing by simulating a sea-floor environment in order to test a new oilfield technology. The environment simulated the equivalent of 3,000 feet of water depth to test a hydraulic pump for deep-sea use.

II. Highlights of FY 2007 ESS&H Accomplishments

At the close of FY 2006, FE identified a number of priorities for FY 2007. This section summarizes accomplishments in FY 2007 related to the following priorities:

- Protecting workers and meeting DOE security and emergency response needs
- Striving for zero accidents
- Eliminating environmental legacies and maintaining strong environmental and pollution prevention programs
- Achieving self-assessment and external certification of ESS&H programs
- Building a strong ESS&H culture
- Integrating safety into all activities as an integral practice
- Increasing on-site quality assurance
- Fostering a continuous learning environment

Protecting Workers and Meeting DOE Security and Emergency Response Needs

Continuing to provide the United States with safe and secure energy requires that FE protect both its employees and its site infrastructure. Each year FE seeks to increase employee safety and security by:

- Ensuring compliance with DOE regulations and policies such as the Personal Identity Verification (PIV) I program;
- Continuing to enhance facility security, utilizing a variety of initiatives to protect critical infrastructure and ensure strict facility access; and

- Hosting organization-wide emergency response drills and exercises to ensure that the workforce is prepared to respond to any security threat or emergency situation that presents itself.

During 2007, SPR planned and conducted a number of exercises to help prepare for natural disasters, pandemics, and other emergencies. One type of exercise tested SPR's Continuity of Operation Pandemic (COOP) crisis capacity, which relies extensively on employees teleworking from various locations to perform essential functions during an emergency or natural disaster. SPR conducted four unannounced exercises in hurricane preparedness and pandemic influenza preparedness that tested the system's ability to support remote access to the network in the event of widespread teleworking.



SPR's workforce examines the Emergency Command Vehicle (ECV). The ECV will greatly enhance emergency communications capabilities during an emergency or disaster.

SPR's Emergency Communications Network (ECN) that works in conjunction with the already established DOE-wide ECN also was improved during FY 2007. The ECN helps to maintain communication capabilities among first responders, the Emergency Management team, and Headquarters during an emergency. To ensure its functionality, SPR field tested the network during a series of on-site exercises. The ECN was also incorporated into SPR's emergency operations plans. In addition, SPR

acquired an Emergency Command Vehicle (ECV) that will increase the availability and reliability of communications in the event that an immediate decision needs to be made from a remote location. During FY 2007, exercises were performed with the ECV to test its capabilities. Finally, SPR anticipates conducting a comprehensive assessment of the entire Emergency Management Program during FY 2008 to continue to reinforce its emergency response and management capabilities.

SPR is in full compliance with the Department of Energy Personal Identity Verification (PIV) 1 requirements. To comply with PIV 1 targets, SPR implemented security background checks



ERT personnel deploy boom during an unannounced exercise at SPR's West Hackberry site.

on all personnel and contractors employed for more than 6 months. In addition, SPR participated in key classification training and security survey training to improve the organization's ability to evaluate security programs and effectively manage classified and official use only information.

NETL has expanded the scope of its safety and security training for its security officers by requiring highly interactive training courses that provide realistic, hands-on experience working with pepper spray, tactical batons, and hand cuffs. NETL also required security personnel to complete several National Training Center courses to enhance competencies.

NETL has also improved its emergency response protocols and procedures, upgraded aspects of its infrastructure, and continued to



NETL security personnel conduct photo ID and vehicle checks prior to granting access to the site.

conduct highly interactive realistic scenarios and exercises to practice these procedures at all of its sites. This year, NETL-Albany revised and updated both its site hazard assessment and Emergency Readiness Assurance Plan (ERAP) to be fully integrated into NETL's procedures, and conducted position-specific training for emergency response personnel. In



During an emergency response exercise at NETL-Morgantown, the ground crew guides the patient to the ground to prepare him for transport to the hospital.

addition, the NETL-Albany facility upgraded its on-site and security camera protection to continuous, around the clock surveillance, and

improved facility access by installing directional signs at the entry gates and consolidating vehicle access to “single-vehicle” entrance at the main gate.

NETL also reinforced the importance of fostering key emergency management partnerships both at its campuses and in the community. This year, NETL integrated all five campuses (Albany, Fairbanks, Morgantown, Pittsburgh, and Tulsa) in the first approved continuity of operations plan. To foster key relationships with the surrounding communities, NETL-Morgantown and NETL-Pittsburgh partnered with communities to create the first approved county joint information centers.



RMOTC employees participate in fire training.

RMOTC developed a number of emergency management exercises and training courses and substantially reinforced facility security during FY 2007. For example, RMOTC repeated two of its most important annual exercises, complete with a lessons-learned/corrective actions debriefing to correct deficiencies. These emergency management activities reinforce the importance of being prepared for the possibility of a disaster. RMOTC also significantly increased its on-site security systems by expanding its physical access systems to additional buildings in the complex. Finally, to heighten facility security, RMOTC issued new keypad codes to ensure

that only authorized personnel are granted access to designated facilities.

Striving For “Zero” Injuries and Illnesses

During FY 2007, FE continued to strive for its goal of zero injuries, illnesses, and incidents in the workplace by devising new preventive measures to mitigate against employee error and equipment malfunction. While all of the sites reported improvements in most performance metrics, FE continues to institute new programs to improve even more. Examples of site improvement programs include:

- Creating programs that help employees to recognize the dangers in their work environment;
- Improving and adopting safety protocols; and
- Conducting skill-building employee safety training.



RMOTC BEC trainees respond to a Confined Space Drill.

During FY 2007, RMOTC implemented a formal analysis process to identify contributing factors to the root cause of accidents and incidents and to assess the validity of the previously determined root cause. RMOTC also updated and revised its safety standard operating procedures to address the diverse types of work being conducted at the site. To further

emphasize the importance of employee safety, RMOTC conducted several basic emergency care (BEC) certification courses.

NETL has revised its worker performance measures to provide even greater incentives to reduce the already low number of accidents and injuries even further. NETL also implemented a site-wide initiative to track completion of open OSHA inspection findings. This initiative led to the correction of 82% of open findings during FY 2007. An additional trend analysis assessment was also conducted that projects injury and illness statistics for the



An emergency response skills competition at NETL-Pittsburgh.

next five years. By studying these trends, preemptive corrective actions can be implemented that will minimize the number of injuries and illnesses that occur.

To help employees recognize the dangers in their work environment, NETL-Albany recently completed its chemical inventory by inputting data into a software tool and provided instructor-led awareness training courses on

the following topics: lead, asbestos, vibration, heat and cold, safe lifting, MSDS, chemical handling, chemical storage, and general first aid techniques. Greater employee awareness and easy access to data when needed should help to reduce the potential for accidents.

NETL also conducted a number of exercises to reinforce the importance of safety in the workplace, including exercises on high angle and confined space rescues. The site also conducted additional training on fall protection, CPR and first aid, and hearing protection.



RMOTC gas detection leak project.

SPR expanded its Human Performance Improvement (HPI) program to include all of DynMcDermott, the operating contractor. The program analyzes important gaps in human performance and identifies the best methods and interventions to close these gaps. The integration of HPI into site operations will help to decrease accidents by improving incident investigations and allowing managers to be more pro-active in addressing work-related problems. SPR anticipates that this program will produce a significant employee cultural shift in attitude, which will focus more heavily on the importance of safety in the workplace. The attitude shift will also indirectly decrease the number of accidents and other types of organizational errors.

SPR also reinforced its employee safety training program, targeting on-the-job training

techniques and safety exercises that test the practical application of knowledge gained during training sessions.



RMOTC employees repair flow lines.

To further reduce the number of accidents and injuries, SPR also implemented several preventive techniques regarding toxic chemicals and safety procedures. During FY 2007, SPR rewrote the standard specifications for abrasive blasting to help to reduce the risk of exposure to a known human carcinogen. In addition, SPR purchased Hydrogen Sulfide personal monitors for employees to use in situations where there is a higher potential for exposure to this toxic chemical. Hazard-specific labels were created to reduce the risk of electrical-related incidents and prevent arc flash accidents.

Eliminating Environmental Legacies and Maintaining Strong Environmental and Pollution Prevention Programs

FE is continuing to implement innovative clean-up technologies to remediate environmental legacies and reduce its “footprint” for future generations. In addition, all of the FE sites have had significant successes in managing current operations that reduce the amounts of waste generated and the potential for future environmental liabilities. All of the sites have operational Environmental Management Systems to manage current operations and are

widely recognized for their commitment to environmental stewardship.

This past year, RMOTC conducted two environmental legacy assessments: a site-wide Environmental Assessment and an Environmental Liabilities Study. RMOTC also conducted a surface water monitoring study to monitor the level of chlorides both entering and exiting the site. These assessments will ensure that excessive amounts of chlorides are not added to the water, which could result in contamination at the site and in the surrounding area. RMOTC has also hired a new Environmental Specialist, which allows the site to focus more attention on ESS&H activities.



RMOTC seismic survey of NPR-3.

NETL continues to make progress on its remediation activities at a number of its research sites. At NETL-Albany, the beryllium characterization effort was completed. This effort completes the sampling for the entire Albany site. Based on the sampling and analysis report, specific, contaminated areas are being targeted for clean up. The assessment also identified contamination’s impact on both employees and site operations. As beryllium is a known carcinogen, it is necessary to tailor employee activities around this dangerous alkaline earth metal.

During FY 2007, NETL continued to make progress on remediation activities at a number



SPR site, West Hackberry, conducting brine tank piping repair.

of legacy research sites. At the Rock Springs site, ongoing cleanup activities took place at Sites 4, 6, 7, 9, and 12 to reduce contaminant levels in the water wells. Periodic shutdowns occurred at these sites to reduce the amount of contamination present. To further reduce contaminants and volatile organic compounds, air sparging was then used. At Site 12, an air sparge system was installed. NETL will begin a one-year stabilization period for ground water later in FY 2008.

At the Hoe Creek Underground Coal-Gasification Project near Gillette, Wyoming, air sparging and bioremediation activities were continued, as was reduction of the contaminant levels of benzene, toluene, ethylbenzene, and xylenes (BTEX) to under 20 parts per billion. At



SPR site of bioremediation at St. James Terminal Booster Pump Pad.

the Hoe Creek II site, ground water has been returned to its original class of use, and former well sites have been completely plugged and abandoned. It is expected that the two-year stabilization period will begin in FY 2008.

Lastly, at the Hanna/DOE Underground Coal-Gasification Project and Rocky Mountain I Underground Coal-Gasification project, ground water and soil cleanup activities have been completed. Vegetation cover has also increased, thus completing the last phase of the remediation. In FY 2008, NETL expects a regulatory determination and bond release from all further obligations for the Hanna/DOE Underground Coal Gasification Site. Remediation activities at the Rocky Mountain I Underground Coal-Gasification Site are now complete.



At a NETL site, collected waste barrels are ready for disposal.

In addition, NETL-Albany completed hooking up impacted residents to clean drinking water after their water supply had been contaminated. To prevent future ground water contamination, NETL-Albany installed additional monitoring wells, conducted an investigation of the northern portion of the site, provided geological characterization of the overall site with an emphasis on the source area, and finished the conceptual model that analyzes the best approach to remediation.

Finally, NETL-Pittsburgh completed construction upgrades to its waste water treatment facility. The system will now monitor various parameters and contaminant levels, such as pH. This will ensure better facility operation and improve filtration efficiency.

NETL also continued asbestos removal and lead paint abatement at its sites to prevent future environmental legacies. Asbestos is often used during construction as insulation and fireproofing, and can be harmful to employees after prolonged exposure. NETL also performed lead paint surveys on metal structures, which will help to mitigate the risk of lead exposure.



A green building retrofit project at an SPR site.

SPR made significant progress during FY 2007 in strengthening its position as a leader in pollution prevention. For example, SPR improved the crude oil moving process at its sites, particularly Big Hill. To transfer crude oil between sites or from one cavern to another, SPR uses frac tanks, which are large storage containers for the oil. During the oil moving process, harmful volatile organic compounds (VOCs) are often emitted. To reduce the emission of VOCs and reduce exposure to harmful gases, SPR participated in the DOE Frac Tank Emission Reduction Team to eliminate VOC release from the Big Hill site.

SPR achieved a number of its environmental goals including compliance with the President's goal for Federal agencies to purchase only environmentally preferable products. In addition, in accordance with the USDA mandate on the purchase of bio-based products, SPR began collaborating with other organizations to discuss real-life experiences with alternative bio-based products.



SPR sites West Hackberry, Bayou Choctaw and New Orleans win fourth LA Environmental Management Award.

SPR has also participated in a variety of "green" initiatives to further sustainable design schemes and advance the President's "Greening the Government" Executive Orders. SPR co-hosted the National Environmental Partnership Summit with the city of New Orleans, which was attended by 650 participants from 47 states and four countries around the world.

At NETL, pollution prevention and reduction in hazardous waste generation have also become priorities. During FY 2007, a Pollution Prevention Opportunity Assessment (PPOA) was completed, which identified areas where NETL can further reduce hazardous waste generation. NETL also made progress in reducing air pollution. The site met its goal of reducing greenhouse gas emissions by 9% to meet both the EPA's standards and the DOE Secretary's emissions goals. In addition, NETL reduced its CFC inventory to only 70 lbs more than the 2002 baseline, and increased alternative fuel use.

Achieving Self-Assessment and External Certification of ESS&H Programs

Systematic measurement and evaluation using both internal and external assessment tools help FE to identify ESS&H weaknesses and target potential areas for improvements. Receiving recognition of its ESS&H programs through external certifications and prestigious awards also clearly demonstrates to FE's employees, communities and business partners FE's commitment to strong ESS&H programs.



NETL sites in Albany, Morgantown, and Pittsburgh, and Research and Development Solutions (RDS), and support contractors Parsons and SAIC received the National Safety Council (NSC) "Occupational Excellence Achievement Award."

All of the FE sites maintain a robust self-assessment program and regularly conduct self-assessments of their performance. For example, each of the SPR sites conducted external assessments on potable water, oil spill prevention, basic pit inspection, and overall site orientation. All of these external assessments resulted in no findings. NETL undertook similar external assessments of their Asbestos Control and Abatement Program, the Operations Safety Analysis and Review System, and the Groundwater Quality Management Program.

In addition to self-assessments, FE continues to seek out external certifications to identify

program improvements and integrate best practices into work processes. SPR and NETL both are ISO 14001 certified, and DynMcDermott has maintained certification of its environmental management system based on ISO 14001.

FE sites received a number of awards in FY 2007. For example, SPR received the prestigious international Robert W. Campbell Award for its successful and effective integration of ESS&H Integrated Safety Management (ISM) practices into all of its business practices. SPR's health and safety awards included OSHA and DOE Star recognitions at all four of its participating sites, and a Special Recognition Award from DOE for outstanding industry performance and leadership in advancing the principles of DOE's Voluntary Protection Program (VPP). SPR also will be highlighted in an OSHA film about the VPP program.

SPR also received an Environmental Management award from the State of Louisiana for its performance at Bayou Choctaw, New Orleans, and West Hackberry. This is the fourth time that all three sites have won this award, an accomplishment never before achieved by a Louisiana facility. In addition, DynMcDermott received an Honorable Mention for "Most Valuable Pollution Prevention (MVP2) Award" for its "green" janitorial contracts.



NETL ESS&H award winners for 2007.

NETL-Albany, Morgantown, and Pittsburgh all received the National Safety Council (NSC) "Occupational Excellence Achievement Award"

in recognition of a strong Lost Workday Case Rate. In addition, NETL's associated sites located in Butte, Montana and Alaska earned the prestigious NSC "Million Work Hours Award," recognizing organizations that have worked more than 1,000,000 man-hours without incurring any occupational injuries or illnesses resulting in days away from work or death. Finally, NETL received the FE ESS&H Award for Innovative HazMat team training practices. RMOTC received a "Certificate of Excellence" for perfect compliance in potable water as well as FE ESS&H awards during FY 2007.

Building a Strong ESS&H Culture

In the midst of organizational changes and hiring new staff, there were significant efforts in FY 2007 to instill and maintain a strong ESS&H culture at FE. For example, FE hired a Technical Assurance Manager, Environmental Specialist, Safety Specialist, and Quality Assurance Specialist at RMOTC, and increased the amount of training and inspections to provide all employees with a comprehensive



RMOTC ESS&H award winners for 2007.

understanding of RMOTC's operations, work culture and performance expectations. In addition, as a result of the significant increase in new hires during FY 2007, RMOTC's Technical Assurance Department (TAD) conducted new-employee orientations to introduce new employees to site safety and operations requirements as well as RMOTC's strong ESS&H culture.

NETL also continued to affirm its ESS&H cultural strength as it integrated the Albany site into the NETL organization. As part of these ongoing efforts, NETL management and technical staff delivered specialized training and technical assistance to finalize the merger of operations between NETL-Albany and NETL. Moving forward, NETL will continue to focus on instilling a strong security culture by hiring a security specialist to assist the Facility Security Officer in program management and operation.

SPR demonstrates its strong ESS&H culture in its numerous community outreach programs. During FY 2007, SPR hosted the National Environmental Partnership Summit in New Orleans and continued its ongoing tradition of participating in Beach Sweeps at Bryan Mound, Big Hill, and New Orleans. This event brings together SPR employees, relatives, and members of the community in reducing pollution at local beaches and Lake Pontchartrain. SPR also supported DOE's annual Science Bowl competition by providing guides, scorers, and timers to the event.

Integrating Safety into Management

To date, FE has operated an ISM system that successfully integrates the safety of its employees, the public, and the environment. It is a systematic method offering advantages through its streamlined organizational approach to safety, which utilizes a specific set of requirements for operations and programs. The



FE ESS&H Director Mark Matarrese participates in RMOTC's Safety Awareness Day in August 2007 with Mike Taylor, RMOTC Technical Assurance Director.

environment, security, safety and health are then acknowledged and incorporated into all of the steps of the work planning and implementation processes.

During FY 2007, the FE sites focused on developing frameworks or plans to implement ISM principles. For example, SPR developed its DOE M 450.4-1 compliant ISM System Description, which affects requirements at all staff levels of the M&O contractor. RMOTC also developed its Functions, Responsibilities, and



Lou Capitanio and Mark Matarrese conducting a safety inspection at NPR-3 / RMOTC in Casper, Wyoming

Authorities Manual (FRAM) as a cohesive document outlining specific ISM policies and procedures. Finally, RMOTC is in the process of developing an ISM declaration and an ISM system description to help the site successfully incorporate ESS&H practices into all phases of the work process.

SPR's approach to ISM involves applying its Human Performance Improvement (HPI) initiative to analyze performance gaps and identify solutions. This process involves working with employees at all levels in the organization to devise strategies for improving safety and health performance.

The FE sites have also actively engaged senior management as role models in integrating safety into site operations. RMOTC now includes its management team in safety issues discussions, inspections, and training courses to ensure that management is aware of and addresses safety issues in a timely manner. NETL also conducts semi-annual management

reviews to ensure that management is aware of and can address issues. Following these reviews, management and employees will have a better understanding of NETL's performance.

An important aspect of ISM is the exchange of best practices. SPR holds an annual Safety Summit as well as maintains a multi-site VPP Advisory Council, responsible for the exchange of ideas among the sites while simultaneously reinforcing mutual site support. RMOTC also promotes ISM principles by incorporating lessons learned into all activities that follow safety exercises.

Increasing On-Site Quality Assurance

To comply with DOE Order 210.2, FE continues to build a strong Quality Assurance (QA) program to ensure that every task undergoes a rigorous QA process. FE's approach to QA blends well-known best practices and standards with site-specific, customized initiatives that reflect each site's unique needs.



At the Joint Information Center, Dan Maloney, Dave Anna, Joe Culver, Joe Kanosky, and Ron Kyle address reporters during an emergency response exercise at NETL-Morgantown.

During FY 2007, each site significantly improved its QA process. NETL updated its QA policy and QA plan to address document control, certification of inspectors, design and engineering changes, pressure relief valves, handling suspect items, and controlling non-conformities.



RMOTC's Casper ESS&H Team. Pictured left to right: Jill Carlisle, Christina Zarate, Matt Slezak, and Roger Hall.

At RMOTC, a QA specialist was hired to integrate QA into processes and assist with the development and implementation of the QA plan. As part of this initiative, RMOTC has been gathering information on near-misses from DOE sites and outside sources, sharing lessons-learned at meetings, and distributing the information to all employees via e-mail.

SPR continued to conduct on-site reviews and audits at each of its field sites and develop corrective action plans. The progress is carefully tracked and aligned with goals in order to implement pertinent corrective actions.

Coupled with the implementation of effective QA programs, FE sites have also adopted recognized best practices and standards to verify their work, and continued to maintain relationships with partners that are certified in ISO 9001 and ISO 9001:2000.

NETL has also performed internal audits using the ISO 9001:2000 standard as a benchmark for performance.

Fostering A Continuous Learning Environment

ESS&H continues to foster a learning environment that seeks to improve organizational performance by devoting resources to training, development, and the

incorporation of industry best practices into operations.

This year, NETL launched three new computer-based training modules, revised six existing computer-based training modules, and created four new instructor-led courses to enhance organizational and daily job performance. In addition, NETL supplements training courses with workshops and exercises that augment employees' on-the-job knowledge of the real challenges they must face every day.



The medical team at NETL-Morgantown begins preparing to treat anyone injured in the emergency response scenario.

RMOTC recognizes the importance of senior management's commitment to continuous learning. For example, management regularly participates in safety training courses, comprised of exercises, instructional seminars, and workshops, to further familiarize site personnel with ESS&H initiatives and requirements. The site also expanded its training program to include a new employee orientation program and basic training.

SPR expanded the breadth of its training offerings, and also extended its Human Performance Improvement (HPI) training to operations, maintenance, and senior management. SPR hopes to expand use of the HPI during FY 2008, making it a part of SPR's workforce culture.

SPR also hosted its third annual Safety Summit. The Summit included interactive instructional seminars and workshops, providing the opportunity for the sites and DOE to talk about on-the-job safety for the entire day.

III. Summary of ES&H Performance

FE remains strongly committed to the goal of reducing and ultimately eliminating injuries, illnesses, and environmental releases. This section highlights the significant progress made in FY 2007 in improving FE-wide ES&H performance on a number of key performance measures. Data on FE's and DOE's safety and health performance represent all workers, including Federal employees, contractors, and subcontractors, where available. Safety and health data and accident root cause information were obtained from DOE's Computerized Accident/Incident Reporting System (CAIRS). Data on operational occurrences, environmental releases, and regulatory violations were obtained from DOE's Occurrence Reporting and Processing System (ORPS). Data on environmentally preferable purchasing and hazardous and sanitary wastes generation were obtained directly from FE sites. Appendix A summarizes site-specific ES&H quantitative performance information, including comparisons of FE performance to DOE sites overall and to DOE VPP sites.

Total Recordable Case Rate Decreases to Lowest Level in Seven Years

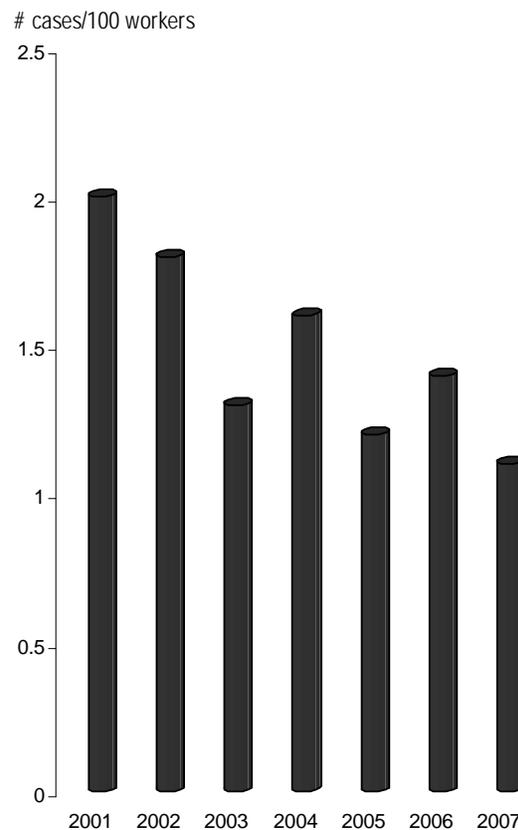
The Total Recordable Case (TRC) rate includes injuries and illnesses incurred by Federal and contract employees that are serious enough to result in medical attention, loss of consciousness, restriction of work activity, or time away from work. In FY 2007, the TRC rate for FE was 1.1, which is 21% lower than in FY 2006 and is FE's lowest TRC rate in seven years. In addition, FE's TRC rate for FY 2007 was lower than the DOE-wide TRC rate of 1.4. At FE, the actual number of recordable cases was 25, which is the lowest number of recordable cases in FE in the last seven years.

The TRC rate accounts for the number of injuries and illnesses that occur in a given year,

normalized for the hours worked at all FE sites. The basis for this normalization is 200,000 hours worked, which is equivalent to the number of hours worked by 100 workers in a year. This year's rate of 1.1 means that 11 of every 1,000 workers were injured at work or had a work-related illness.

Figure 1

FE TOTAL RECORDABLE CASE (TRC) RATE



Number of injury and illness cases per 100 workers

Source: Computerized Accident/Incident Reporting System

All of the FE sites reduced their TRC rates in FY 2007 significantly, with the exception of FE HQ which maintained its TRC rate of zero for the 9th year in a row. SPR lowered its TRC rate by 29% to 0.9, and RMOTC's TRC rate declined by 22% to 8.1. NETL's TRC rate decreased by 22% to 0.7, its lowest in 7 years.

FE had 25 recordable cases which is 48% fewer than in 2001, when the FE ESS&H Annual Report started reporting this data. The two primary causes for these accidents were: (1) employee error, and (2) design and materials failure. Since employee error alone was responsible for over 50% of FE's recordable cases, in FY 2008, FE will continue to reinforce its existing employee safety training and awareness programs and design new programs to reduce employee error resulting in accidents or injuries. In addition, FE will continue to share best practices among its sites and HQ to ensure that the entire FE community has access to the best methods for reducing and eliminating accidents and injuries at FE.

Days Away, Restricted Or On Job Transfer Case Rate Reduced by 25%

FE's Days Away, Restricted or on Job Transfer (DART) Case rate represents the number of work-related injuries that resulted in employees missing days of work, returning to work on restricted duty or working in a different function. In FY 2007, FE's DART Case rate was 0.6, a decrease from FY 2006 and only slightly above FE's historic low rate of 0.5 achieved in FY 2005. FE's FY 2007 DART Case rate of 0.6 resulted from 14 accidents at FE sites.

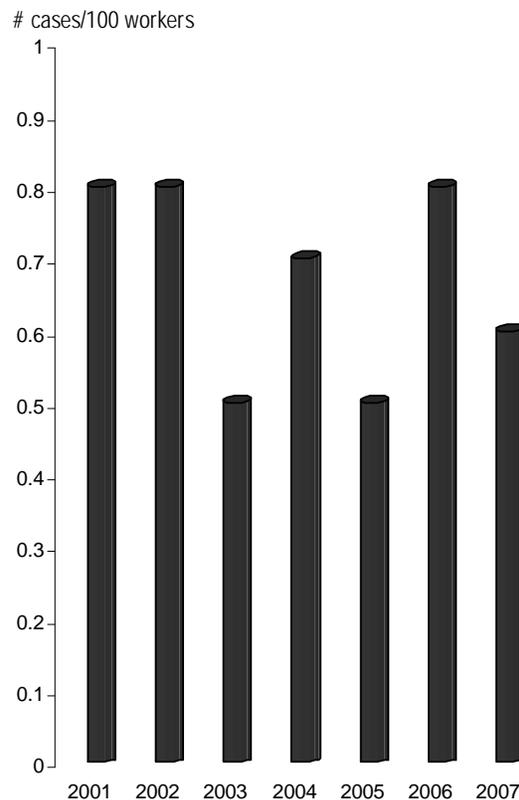
As with the TRC rate, the DART Case rate is normalized to hours worked. A rate of 0.6 indicates that 6 of every 1,000 workers suffered a work-related injury or illness that resulted in lost workday(s) or day(s) of restricted duty or job transfer. FE's performance in this category has the most serious consequences and cost implications for FE, because the organization loses the productivity of injured employees while they are recuperating.

FE HQ continued a nine-year trend of having no accidents that resulted in lost workdays. All of the FE sites either maintained their low DART rate or reduced their low rates even further. NETL reduced its DART Case rate by 60% to 0.2, which represents a historic low for NETL.

RMOTC also reduced its DART Case rate by 38% with a historic low of 4 DART Cases for a DART Case rate of 4.6. SPR, for the third year in a row, maintained a DART Case rate of 0.7

Figure 2

FE DAYS AWAY, RESTRICTED OR ON JOB TRANSFER (DART) CASE RATE



Number of cases resulting in lost workdays or workdays with restricted duty or transfer, per 100 workers

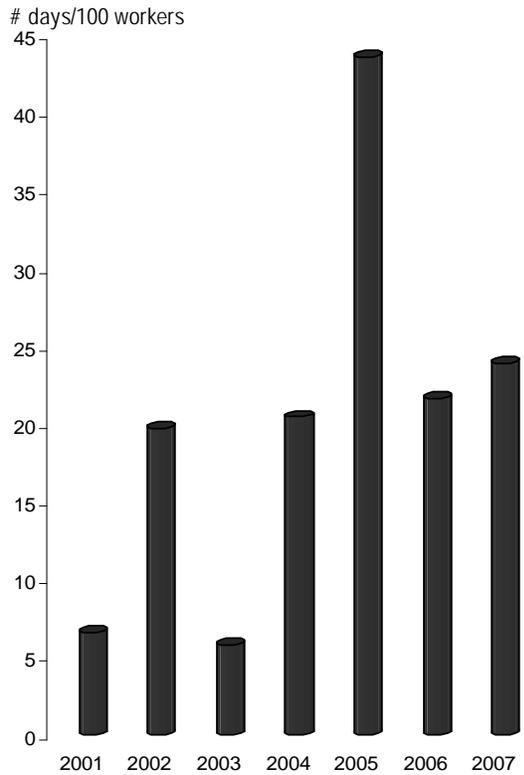
Source: Computerized Accident/Incident Reporting System

Days Away, Restricted Or On Job Transfer Rate Increases Slightly

The Days Away, Restricted Or On Job Transfer (DART) rate is the number of lost workdays, days of restricted work activity or job transfer normalized for the number of hours worked by 100 employees, and is an indicator of the severity of the accidents that occur. FE's DART rate of 23.9 days lost per 100 workers represents an increase of approximately 11%

from FY 2006. Although the DART rate did increase slightly during FY 2007, it is still substantially lower than FY 2005's rate.

Figure 3
FE DAYS AWAY, RESTRICTED OR ON JOB TRANSFER (DART) RATE



Number of lost workdays or workdays with restricted duty or transfer per 100 workers

Source: Computerized Accident/Incident Reporting System

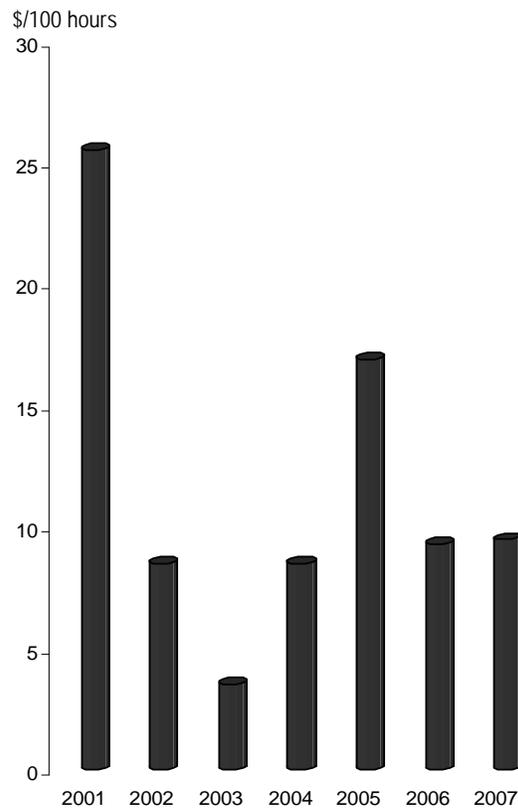
FE had a total of 563 lost workdays, days on restricted duty, or transfer for all of its sites. This is a slight increase from FY 2006. During FY 2007, FE had 295 days away from work, more than the 266 days away from work during FY 2006. This suggests that the accidents that did occur during FY 2007 were slightly more serious and precluded more employees from returning to work than during FY 2006. In addition, FE had a rate of 268 days on transfer or restriction.

While DART rates across all FE sites increased slightly in FY 2007 (11%), the DART rates

varied across the FE sites. FE HQ continued to have a DART rate of zero. During FY 2007, RMOTC had the largest decrease (89% from FY 2006) with a DART rate of 19.8. RMOTC's DART rate was the lowest among the FE sites. SPR increased its rate by 20% from FY 2006 to achieve a DART rate of 23.6. Finally, NETL experienced a sharp increase in its DART rate in FY 2007 to 24.4 (78% increase from FY 2006), mostly as a result of two injuries that represented nearly 60% of the days away from work. NETL has implemented new safety procedures and equipment that should prevent either of these accidents from occurring again.

Occupational Safety And Health Cost Index Increases Slightly

Figure 4
FE OCCUPATIONAL SAFETY & HEALTH COST INDEX



Estimated cost of injuries and illnesses per 100 work hours

Source: Computerized Accident/Incident Reporting System

The Occupational Safety and Health Cost Index is a performance indicator that represents the normalized estimate of the costs of FE's injuries incurred by FE sites. In FY 2007, FE's cost index increased slightly (3%) from FY 2006. This increase is primarily the result of the additional costs incurred with an increase in the number of days away from work. While FE's cost index did increase to 9.59, it is still lower than the DOE-wide cost index. This marks the sixth year in a row that FE's cost index is below the DOE-wide cost index.

As with the DART rate, results at the sites varied. SPR's cost index decreased slightly (1%) to 8.40. RMOTC's cost index was reduced by 82% to 14.18. This figure was consistent with the large reduction in the DART rate. NETL's cost index nearly doubled from 5.92 in FY 2006 to 10.32 in FY 2007, again due primarily to the costs associated with the two injuries that resulted in a significant number of days away from work. Also, FE HQ had no compensation costs for the fifth year in a row.

Number Of Operational Occurrences Remains Low in FY 2007

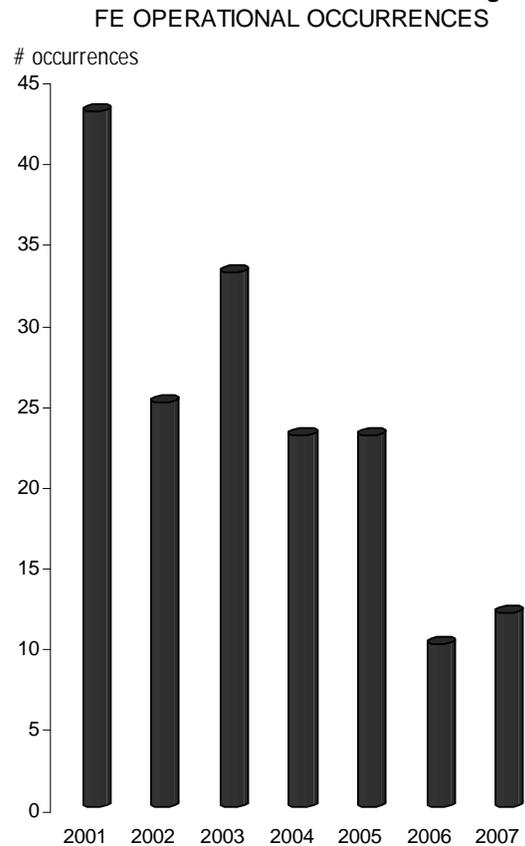
The operational occurrences performance metric represents the number of operational events or conditions that may adversely affect DOE or contractor personnel, the public, DOE property, the environment, or the DOE mission. In FY 2007, there were 12 operational occurrences at FE sites, which is the second lowest number since 1990.

NETL improved their performance, reducing the number of occurrences from four to two in FY 2007. SPR had three occurrences consistent with their performance last year. RMOTC, however, experienced a significant increase in occurrences, with 7 occurrences.

The major causes of FE's operational occurrences in FY 2007 were corrosion, malfunctioning equipment, and employee error. Preventive maintenance, regular equipment inspections and additional employee training,

should help reduce these operational occurrences for FY 2008.

Figure 5



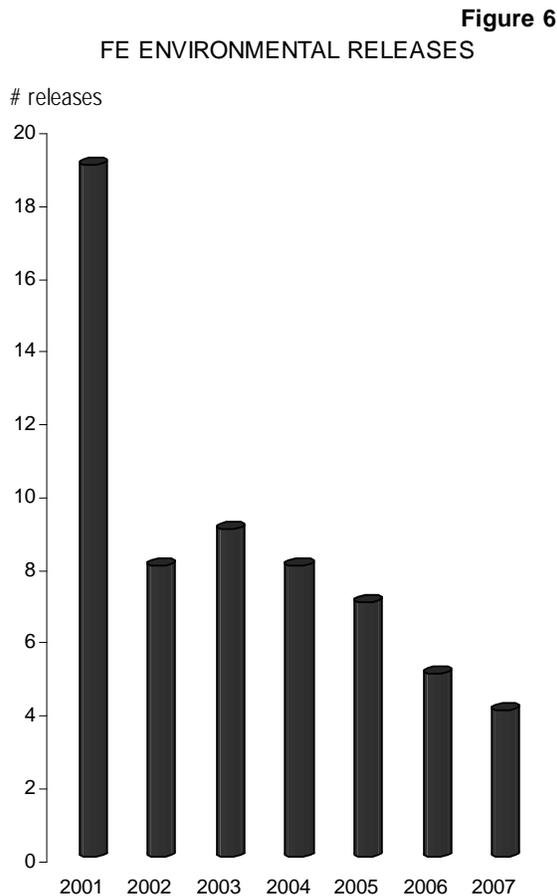
Number of operational events or conditions that adversely affect or may affect DOE or contractor personnel, the public, property, the environment, or the FE mission

Source: Occurrence Reporting and Processing System

Number Of Environmental Spills And Releases Sets Seven Year Low

Environmental releases represent the total number of spills, leaks, and discharges of hazardous substances, oil, and regulated pollutants to the environment that must be reported. For FY 2007, FE sites reported four environmental spills and releases, the fewest in the past seven years. For the first time in four years, NETL and SPR both reported no releases. RMOTC had a slight increase in its number of releases from three to four. Most of

the releases were a result of internal corrosion of flow lines and equipment failure. These releases consisted of produced fluids and crude oil.



Number of spills, leaks, and discharges

Source: Occurrence Reporting and Processing System

FE Had One Regulatory Violation In FY 2007

The regulatory violations performance metric refers to the total number of violations or citations received from external regulatory agencies, such as EPA, OSHA, or state regulatory agencies, during the fiscal year.

In FY 2007, RMOTC was the only FE site to receive a regulatory violation, which was a

Letter of Violation from the Wyoming Department of Environmental Quality (WYDEQ). The Notice of Violation noted two discrepancies with RMOTC’s permit related to the accuracy of the flow measurement at the outfall of RMOTC’s B-TP-Tank Battery, and a discrepancy with the amount of iron staining in the channel. RMOTC has provided an explanation of its measurement method and will re-evaluate its measurement techniques in consultation with WYDEQ.

Table 1

FE REGULATORY VIOLATIONS	
Fiscal Year	# of Violations
2001	2
2002	3
2003	3
2004	4
2005	3
2006	0
2007	1

Source: Occurrence Reporting and Processing System with Field Site verification

Hazardous Waste Generation Cut By More Than Half

In FY 2007, FE generated 6,345 pounds of hazardous wastes (wastes defined as hazardous under EPA’s RCRA regulations), a 55% net reduction from FY 2006. This reduction represents a seven year low for hazardous waste generation for FE.

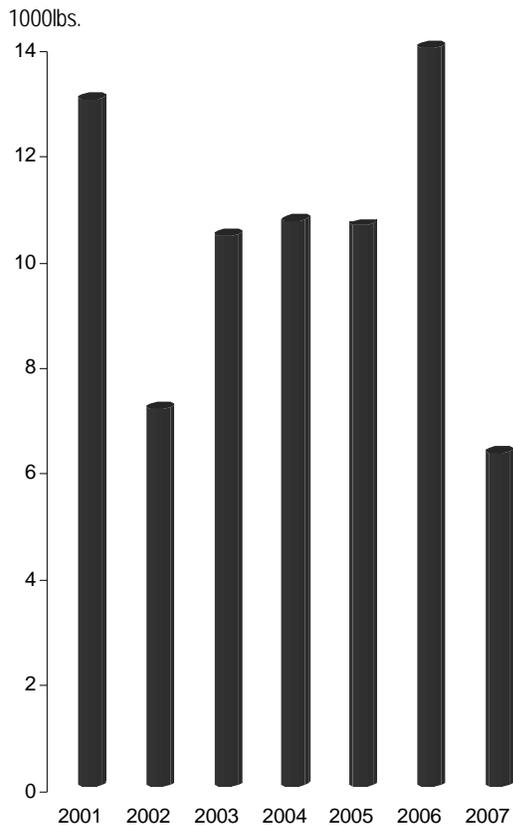
FE’s overall reduction in hazardous waste generation was primarily the result of a 55% reduction in the amount of hazardous waste generated at NETL. A significant portion of the hazardous waste that was generated was corrosive liquid (2,156 lbs) produced as a result of a large increase in the number of laboratory analyses performed for mercury as part of research focusing on reducing mercury emission from energy production.

RMOTC and FE HQ continued to generate no hazardous waste in FY 2007. SPR’s hazardous waste generation was 182 pounds in FY 2007, which is a 32% reduction from FY 2006. This is

the third year in a row that SPR has reduced the amount of hazardous waste generated.

Figure 7

FE HAZARDOUS WASTE GENERATION



Hazardous wastes are wastes defined as hazardous under EPA's RCRA regulations

Source: Field Sites

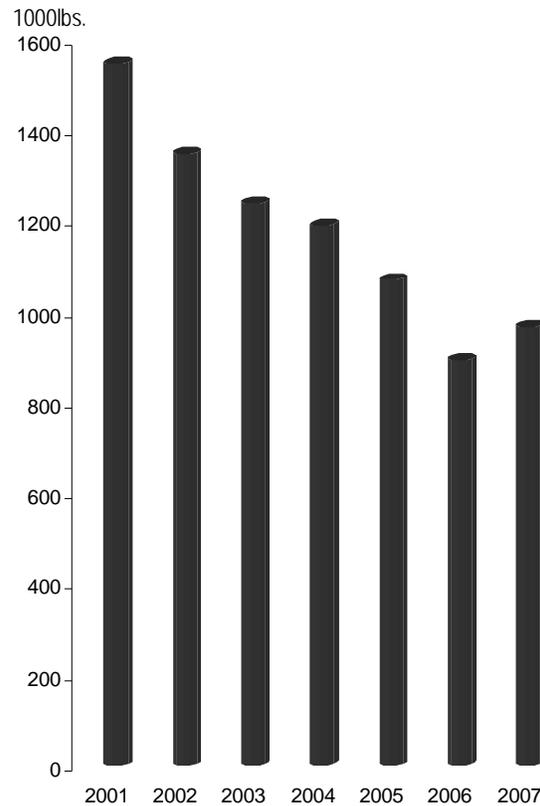
Sanitary Waste Generation Increases Slightly

Sanitary waste is defined as all waste generated, excluding RCRA hazardous wastes and wastes that are recycled. In FY 2007, FE generated 966,006 pounds of sanitary waste, which is an 8% increase from FY 2006. This increase reverses a six year decline in FE's sanitary waste generation.

Site-specific experience was varied. SPR decreased its sanitary waste generation by 9%, but RMOTC and NETL increased the amounts of sanitary wastes generated by 77% and 24%, respectively. However, it is important to note

Figure 8

FE SANITARY WASTE GENERATION



Sanitary waste is defined as all waste generated, excluding RCRA hazardous wastes and wastes that are recycled

Source: Field Sites

that RMOTC produces much less sanitary waste than NETL, with RMOTC producing only 36,630 pounds of sanitary waste in FY 2007, while NETL produced 524,612 pounds of sanitary waste.

All of the FE sites continue to actively pursue recycling and reuse programs for office materials, batteries, and scrap metal. Sites have also established a broad range of other

innovative site-specific recycling and reuse programs. For example, SPR instituted programs to recycle toner cartridges, cardboard, aluminum cans, paper, and construction debris. NETL expanded their recycling and reuse programs to include scrap metal, cafeteria cooking oil, waste computer recoding media, and neutralized solutions of non-hazardous corrosive liquids. RMOTC continues to have strong recycling and reuse programs, which includes toner cartridges, cardboard, newspapers, aluminum cans, magazines, paper and cell phones.

FE Continues to Meet Goals for Environmentally Preferable Purchasing

Federal agencies are required to purchase products with recycled content as designated by EPA. These categories are paper and paper products, construction materials, non-paper

office products, vehicular transportation, and landscaping materials. EPA allows Federal agencies to exclude from their total purchases those purchases in which a product with recycled content is not available at a reasonable cost within a reasonable period, or does not meet performance standards. FE improved its environmentally preferable purchasing programs and instituted additional recycling and reuse programs. For example, to reduce the amount of paper products used, SPR has encouraged electronic distribution of reports and mailings. NETL instituted procurement controls to ensure that 95% of acquisitions of electronic products meet the Electronic Product Environmental Assessment Tool registration requirements. RMOTC continues to participate in the Blue Sky Program, which purchases “green” electricity through Rocky Mountain Power.

IV. Next Steps in the Pursuit of ESS&H Excellence

During FY 2007, FE has continued to progress in its ESS&H performance, demonstrating a level comparable to or better than Department-wide performance on most ESS&H indicators. FE will continue to face recurring challenges as well as new ones, such as the large number of new staff replacing retiring employees and the integration of safety into management practices. This section provides an overview of FE's ESS&H challenges and priorities for FY 2008, followed by a summary of site-specific initiatives.

Key Challenges And Initiatives

Protecting Workers and Meeting DOE Security and Emergency Response Needs

As FE manages many of the strategic resources vital to the nation, ensuring excellent emergency response and high security capabilities at every site is essential. To meet this need, FE will continue to (1) train its personnel on emergency management practices using realistic scenarios and exercises; (2) enhance infrastructure security by eliminating gaps in security coverage and installing security camera surveillance equipment; (3) conduct vulnerability assessments and continuously evaluate security programs to ensure that current practices are up-to-date, are consistent with current Homeland Security directives and other Government-wide standards, and are as effective as possible; and (4) conduct security awareness training. FE will continue to maintain strong relationships with local, State, and Federal law enforcement officials to ensure seamless communication and coordination.

Integrating New Hires into FE's Strong ESS&H Culture

Due to a combination of factors such as employee retirements and job transfers, FE has hired many new employees over the past year. As employees reach retirement age, FE will need to continue to hire replacement staff and ensure that there is a strong succession strategy in place. FE will strive to quickly integrate new employees into the workforce by fostering a learning environment that will encourage conducting scenario-based training programs and exercises, and emphasize on-the-job training. In addition, FE will develop approaches for capturing knowledge related to key ESS&H activities to ensure that FE can continue its strong ESS&H performance in FY 2008 and beyond.

Striving For "Zero"

FE's ultimate goal is to have zero accidents, work-related injuries and illnesses, regulatory enforcement actions, and reportable environmental releases. FY 2007 marks another year where FE made consistent, measurable progress with a strong record. As a result, FE will continue to (1) ensure that employees are aware of, understand, and follow safety standards; (2) enhance employee safety training and exercises, particularly those pertaining to the recognition of potential health and safety hazards; (3) lower employees' exposure risk to chemicals and toxins by purchasing new emergency preparedness equipment; and (4) create a work environment that encourages open communication with employees about ESS&H concerns.

Reducing FE's Environmental Footprint

During FY 2007, FE continued to focus on ensuring that its current activities do not create environmental legacies for future generations. In addition, FE also implemented new cutting-edge and cost-effective technological approaches to ensure the least possible harm to the environment. FE has a number of

environmental initiatives projected for FY 2008 that focus on (1) increasing awareness of the availability of “green” building design resources; (2) reducing both hazardous and sanitary waste generation; (3) reducing greenhouse gas emissions and progressing towards the 2010 goal of “zero inventory;” (4) continuing asbestos removal and lead paint abatement where appropriate; (5) further investigation and clean-up of groundwater contamination and harmful chemicals at NETL sites; and (6) continuing ongoing restoration, monitoring, and closure of sites where FE previously conducted research, development, and demonstration projects.

Effectively Implementing Integrated Safety Management

FE will continue to weave its Integrated Safety Management (ISM) process throughout all its work planning and practices. During FY 2008, FE will continue to foster opportunities for increased ISM, by hosting events that combine senior staff, HQ employees, and site representatives and providing computer-based training for all employees. The FE sites will also continue to focus on Human Performance Improvement (HPI), a program that will systematically analyze human performance gaps and identify the best interventions for closing these gaps. This program relies on the integration of different segments of the employee population from members of the senior management team to contractors and employees to promote safety management functions. During FY 2008, the full implementation of this program will begin.

Promoting an Organization of Continual Learning

FE’s approach to elevating the knowledge of its workforce in a cost-effective manner is to encourage an atmosphere that promotes the mutual exchange of ideas and best practices. FE demonstrates this commitment to learning through broad-based training programs that include instructor-led, web-based, and shared

learning training and activities. In FY 2008, FE will continue to enhance its emergency management drills and exercises, utilizing a combination of realistic scenarios and exercise drills to teach employees how to use newly available equipment and systems. In addition, FE will continue to take part in local agency exercises to promote networking and reinforce the importance of the exchange of ideas.

FE’s Quality Assurance Process

Due to the importance, complexity, variety, and volume of work that FE conducts on a daily basis, it is important that FE adheres to effective and efficient QA procedures. During FY 2008, FE will continue to implement and update QA plans to ensure that programs and activities are strategically aligned with FE’s overall mission and goals. In addition, FE will strive to ensure the quality of all of its programs and the work done by its employees.

Maintaining External Certification of ESS&H Programs

Obtaining external certifications of FE’s ESS&H programs and employing external, nationally recognized experts to assess and validate our programs helps to assure our employees and the public that we are leaders in the field. FE will continue to maintain these external certifications from OSHA, EPA, and the International Organization for Standardization (ISO) as well as voluntarily participate in third-party programs.

Site-Specific Initiatives

National Energy Technology Laboratory (NETL)

- ✓ Purchase/upgrade handheld air monitors for both NETL-Pittsburgh and NETL-Morgantown.
- ✓ Make infrastructure improvements including installing gas alarms at the chemical handling facility at NETL-Pittsburgh;

- improving the placement of heat and smoke detectors to reduce the number of false alarms; and redesigning the aging sewage outlet system at NETL-Albany.
- ✓ Install a pH control system in the clarifier at NETL-Morgantown to lower the risk of exceeding regulatory requirements.
 - ✓ Begin installation of HSPD-12 compliant security infrastructure by installing Enrollment and Activation Stations for PIV 2 phase of government-wide badge effort.
 - ✓ Continue to improve NETL security infrastructure by improving surveillance and access control systems and maximizing the effectiveness of security staff.
 - ✓ Remove galbestos siding, which contains harmful asbestos, from NETL-Pittsburgh Building 921 and upgrade equipment at the Pittsburgh Emergency Operations Center.
 - ✓ Provide on-site eyewash protection to janitorial staff.
 - ✓ Complete required Emergency Response Program requirements at NETL-Albany.
 - ✓ Complete Memoranda of Understanding for National Incident Management System compliance in emergency management.
 - ✓ Revise emergency response directives to comply with new requirements and satisfy corrective action findings from exercises and internal reviews.
 - ✓ Conduct table-top exercises, site-wide exercises, and a COOP computer-based training module.
 - ✓ Provide initial training for electrical workers and supervisors on Arc Flash Awareness.
 - ✓ Enhance training of security officers by providing training aids such as practice batons, striking bags, red man suits, and training mats.
 - ✓ Complete evaluation of the NETL-Albany site, and begin to address priority areas, rooms, and/or equipment.
 - ✓ Improve recycling system and practices. Recycle electronic equipment at NETL-Albany.
 - ✓ Perform detailed trend analysis of RCRA hazardous waste corrosive liquids generation.
 - ✓ Improve chemical storage conditions and minimize chemical stock stored in lab and research areas at NETL-Albany.
 - ✓ Implement a new laboratory-wide corrective action tracking system to replace the old systems used at the Pittsburgh, Morgantown, and Albany sites.
 - ✓ Expand Industrial Hygiene monitoring and surveillance programming at Albany on noise, surface, and air pollutants.
 - ✓ Continue with site investigations, risk assessments, and feasibility studies associated with the groundwater program at NETL-Albany that are in accordance with Oregon DEQ requirements under the Voluntary Cleanup Program.
- Rocky Mountain Oilfield Testing Center (RMOTC)***
- ✓ Develop the requirements for ESS&H best practices.
 - ✓ Continue to share lessons learned with other organizations and sub-divisions.
 - ✓ Conduct cultural resources surveys.
 - ✓ Develop a procedure for corrective action tracking.
 - ✓ Conduct Safety Awareness Training.
 - ✓ Utilize training and inspections to increase ESS&H contact with site personnel.

- ✓ Enhance the ESS&H culture at RMOTC using stand up training and RMOTC's Safety Awareness Day.
- ✓ Enhance worker involvement in safety and health.
- ✓ Prepare for emergencies by conducting one drill per quarter and an annual exercise.
- ✓ Continue to recycle paper, cardboard, old computers, batteries, cell phones, soda cans, etc.
- ✓ Conduct a PPE Hazard Assessment.

Strategic Petroleum Reserve (SPR)

- ✓ Achieve DOE-recognized Emergency Management Accreditation in accordance with DOE G 151.1-XY.
- ✓ Upgrade Physical Systems by executing a Human Reliability Program and prepare for the Protective Force Collective Bargaining Agreement.
- ✓ Conduct fire and hazard assessments at each site.
- ✓ Implement Human Performance Improvement training by integrating it into existing SPR work processes and making it a fundamental part of SPR culture.
- ✓ Provide certified in-house H2S training to DOE and contractor personnel, including security guards and site-safety specialists.
- ✓ Provide computer-based training for DOE and M&O employees on Integrated Safety Management.
- ✓ Reduce reportable occurrences from operational facilities to no more than four annually.
- ✓ Complete a 15-point corrective action plan to reduce vehicular accidents.

- ✓ Re-emphasize the commitment to the Close Call Program.
- ✓ Explore the potential of the Lean Behavioral Safety method to determine possible use.
- ✓ Create an implementation plan for Executive Order 13423 by April 2008.
- ✓ Maintain ISO 14001 certification by continuously improving the planning and implementation of the program.
- ✓ Meet the P-Track and Clean taxes stretch goals by reducing VOC emissions by at least 15%, providing habitat on site to protect wildlife, reviewing and revising all applicable building standard specifications to include green building methods and strategies, and replacing cleaning products with those containing environmentally preferable bio-based products.
- ✓ Reduce total amount of hazardous waste generated to no more than 500 lbs. per fiscal year and sanitary waste to no more than 900,000 lbs. per year.
- ✓ Demonstrate progress toward installing cost effective energy conservation measures.
- ✓ Increase the purchase of electricity from non-hydroelectric renewable energy sources.
- ✓ Continue to take part in local agency exercises to promote networking and benchmark SPR against other organizations' scenarios.

Appendix A. SUMMARY OF FE 2007 PERFORMANCE MEASURES: PERCENTAGE CHANGE FROM FY 2006 PERFORMANCE

Metric	FE Total	FE HQ	SPR	NETL	RMOTC	DOE Total	DOE VPP Sites*
Total Recordable Cases	25 (-19%)	0 (NC)	10 (-29%)	8 (-20%)	7 (NC)	1,656 (-15%)	173 (-25%)
Total Recordable Case Rate	1.1 (-21%)	0 (NC)	0.9 (-36%)	0.7 (-22%)	8.1 (-22%)	1.4 (-13%)	1 (25%)
# Days Away, Restricted or on Job Transfer Cases	14 (-22%)	0 (NC)	7 (NC)	3 (-50%)	4 (-20%)	711 (-14%)	88 (4%)
Days Away, Restricted or on Job Transfer Case Rate	0.6 (-25%)	0 (NC)	0.7 (NC)	0.2 (-60%)	4.6 (-38%)	0.6 (-14%)	0.6 (100%)
# Days Away, Restricted or on Job Transfer	563 (18%)	0 (NC)	252 (28%)	294 (86%)	17 (-86%)	29,654 (-6%)	3,468 (5%)
Days Away, Restricted or on Job Transfer Rate	23.9 (11%)	0 (NC)	23.6 (20%)	24.4 (78%)	19.8 (-89%)	24.6 (-2%)	20.9 (73%)
Occupational Safety and Health Cost Index	9.59 (3%)	0 (NC)	8.40 (-1%)	10.32 (74%)	14.18 (-82%)	10.77 (-23%)	5.84 (11%)
Estimated Injury & Illness Costs	\$452,200 (9%)	\$0 (NC)	\$179,600 (7%)	\$248,200 (82%)	\$24,400 (-78%)	26,005,400 (-25%)	\$2,718,400 (-5%)
# Operational Occurrences	12 (20%)	0 (NC)	3 (NC)	2 (-50%)	7 (133%)	1318 (-16%)	Not Available
# Environmental Releases	4 (-20%)	0 (NC)	0 (-100%)	0 (-100%)	4 (33%)	42 (8%)	Not Available
# Regulatory Violations	1 ***	0 (NC)	0 (NC)	0 (-100%)	1 ***	44 (7%)	Not Available
Lbs. Hazardous Waste Generated	6,345 (-55%)	0 (NC)	182 (-32%)	6,163 (-55%)	0 (NC)	Not Available	Not Available
Lbs. Sanitary Waste Generated	966,006 (8%)	0 (NC)	404,774 (-9%)	524,612 (24%)	36,620 (77%)	Not Available	Not Available
Hours Worked	4,715,427 (6%)	Not Available	2,137,738 (7%)	2,405,579 (5%)	172,110 (28%)	241,534,578 (-3%)	46,567,768 (-14%)
Near Misses	2 (100%)	0 (NC)	1 ***	1 (NC)	0 (NC)	120 (-25%)	Not Available

Numbers in parentheses represent change from FY 2006.

***FY 2006 number equaled zero

NC = No Change from FY 2006

* DOE VPP Sites include sites associated with Kansas City Plant, INL, Idaho Operations Office, Pacific Northwest National Laboratory, Sirategic Petroleum Reserve, Hanford Site, Ohio Field Office, Nevada Test Site, West Valley Demonstration Project, Savannah River Operations Office, Waste Isolation Pilot Project, Yucca Mountain Project, Oak Ridge Associated Universities, and Office of River Protection, and includes participants such as Facility Engineering Services, Battelle Energy Alliance, CH2M WG Idaho, Battelle Memorial Institute, Fluor Hanford, DynMcDermott Petroleum Operations, Fluor Fernald, Honeywell Federal Manufacturing and Technologies, Wackenhut Services, Washington Group International, Bechtel SAIC Company, Oak Ridge Institute for Science and Education, Washington Cleanup, and CH2M Hill Hanford Group.

Office of Environment, Security, Safety and Health

For more information about the U.S. Department of Energy's Office of Fossil Energy programs, please visit www.fossil.energy.gov, call 202-586-6503, or write:

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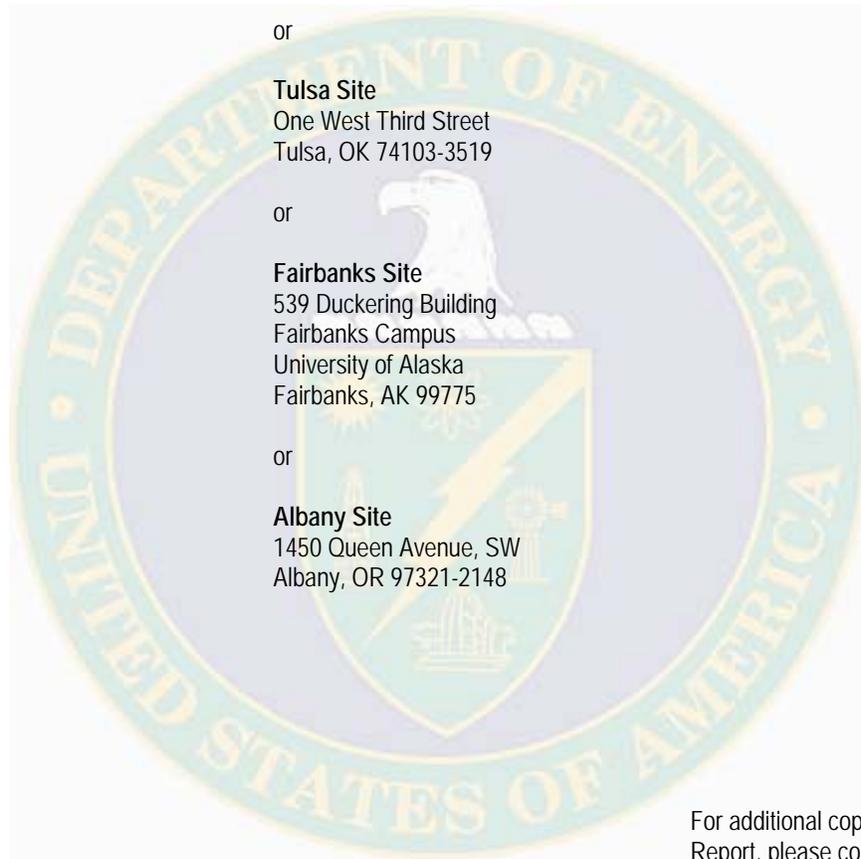
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Office of Environment, Security, Safety and Health

FE FY 2007 Site Awards

- Louisiana Environmental Management Award – SPR sites Bayou Choctaw, New Orleans, and West Hackberry
- National Pollution Prevention Roundtable Most Valuable Pollution Prevention Award for Greening the Janitorial Contracts – SPR
- DOE VPP Awards, Stars of Excellence – SPR sites Bayou Choctaw and West Hackberry
- DOE VPP Awards, Superior Stars – SPR sites Big Hill and Bryan Mound
- Fossil Energy Excellence in ESS &H Award – SPR
- National Safety Council Occupational Excellence Achievement Award – New Orleans
- OSHA Star Among Star Award – all SPR sites
- FE ESS&H Award for Innovative HAZMAT Team Training – NETL
- Robert W. Campbell Award for effective ISM – SPR
- National Safety Council's "Occupational Excellence Achievement Award" – NETL Albany, Morgantown, and Pittsburgh
- National Safety Council's Award of Honor – SPR sites Bayou Choctaw, New Orleans, and West Hackberry
- White House Electronics Reuse and Recycling Campaign – SPR
- R & D Magazine's *R & D 100 Awards* – NETL