

**Federal Agency
Environmental Program Survey
Response**

Department of Energy



August 15, 2003

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1 BACKGROUND

1.1 Please describe your department or agency profile including an estimated number of facilities and including a brief description of what the term “facility” means to your department or agency.

(For example, a wildlife refuge may be considered a facility by FWS and it includes land and buildings within a defined boundary). Where the term “installation” or “site” better applies to your agency usage, please use that term but include a brief description of what it means to your department or agency. This information should include a representative sample of common facilities or installations, including type (industrial, laboratories, office buildings, land management), size, location and number (range) of staff. The goal here is to have a descriptive picture of the breadth and extent of federal holdings. DO NOT IDENTIFY SPECIFIC FACILITIES.

The Department of Energy (DOE or the Department) conducts programs relating to national nuclear security, energy resources, science, and environmental cleanup.

- *National nuclear security* – The National Defense Programs of the Department have four overriding priorities. They include:
 - ensuring the integrity and safety of the country's nuclear weapons;
 - promoting international nuclear safety;
 - advancing nuclear non-proliferation; and,
 - continuing to provide safe, efficient, and effective nuclear power plants for the United States Navy.
- *Energy resources* – The priorities of the Department's energy program are to:
 - increase domestic energy production;
 - revolutionize our approach to energy conservation and efficiency; and,
 - promote the development of renewable and alternative energy sources.
- *Environmental cleanup* – The priorities of the Department's environmental cleanup program are:
 - ensuring that safety legacies of the cold war are addressed and resolved in a manner that does not impede future national security missions; and,
 - permanently and safely disposing of the nation's radioactive wastes.
- *Science* – The top priority of the Department's science program is the sponsorship of cutting-edge science and technology research and development that revolutionizes how we find, produce, and deliver energy.

The Department’s nationwide complex of facilities consists of DOE Headquarters and DOE Field Organizations, national laboratories, nuclear weapons production plants, power marketing administrations, and special-purpose offices as well as sites no longer needed for Department operations but undergoing remediation. DOE has almost 16,000 Federal employees and more than 100,000 contractor employees working at more than 50 major sites in 35 states. DOE is the

landlord of 2.5 million acres of land, more than 10,500 buildings with more than 127 million square feet of space, and more than 6,000 other structures and facilities. DOE developed and used these properties for nuclear weapons research, production, and testing; and for basic and applied research in nuclear energy and other fields.

DOE generally uses the word “site” to refer to the locations where we operate. A site may be as large as several hundred square miles, or as small as a few acres. A DOE “facility” refers to a specific building, laboratory, plant, or office at a site. The term “Field Element” includes Operations Offices, Field Offices, Energy Technology Centers, and Power Marketing Administrations.

The Department’s sites include the following, which represent just a sample of the diversity of our sites and activities.

- A large site in the Pacific Northwest formerly operated nuclear reactors and chemical processing facilities to produce plutonium for nuclear weapons. The site encompasses 586 square miles. Approximately 11,000 people work at the site; most of these are contractor personnel.

Cleanup is now underway of the reactors and waste from the former production mission. Cleanup of the site must address more than 50 million gallons of high-level radioactive waste in 177 underground storage tanks, 2,300 tons of spent nuclear fuel, 12 tons of plutonium in various forms, about 25 million cubic feet of buried or stored solid waste, and about 270 billion gallons of groundwater contaminated above drinking water standards (spread out over about 80 square miles), more than 1,700 waste sites, and about 500 contaminated facilities. Cleanup activities are conducted by contractors under the direction of the DOE Operations Office at the site, and the headquarters Office of Environmental Management. A separate Office is conducting (through its contractors) cleanup and treatment of the tanks of high-level radioactive waste, including construction of a major vitrification facility.

A national laboratory (reporting to DOE’s Office of Science) is also located at the site.

- One of DOE’s four Power Marketing Administrations distributes electricity (generated by 56 Federal hydropower plants) across 15 western states. It employs about 1,300 Federal employees and 220 contract workers, at a headquarters office and four regional offices. This power administration operates and maintains 17,474 miles of transmission lines, 266 substations, 430 communication sites, and 43 maintenance facilities, as well as offices and warehouses.
- A major weapons laboratory conducts research in weapons design and engineering in the interest of national security. The lab occupies an area of 1.3 square miles; chemical explosives testing is conducted at a nearby site that occupies an area of 12 square miles. The lab is overseen by a DOE Site Office with 100 Federal employees, and is operated by about 8,000 contractor employees.

- DOE stores 610 million barrels of petroleum in underground salt domes for use in the event of a severe oil supply disruption. Four sites on the Gulf Coast encompass a total of 1,730 acres, served by 202 miles of DOE pipeline. This activity is managed by 24 employees in the Office of Fossil Energy at Headquarters, and 150 DOE employees in a Site Office; work is conducted by approximately 1,025 contractor employees.
- DOE produces oil at a Naval Petroleum Reserve oil field in the Rocky Mountain states. The Department will operate the small stripper well field until it reaches its economic production limit in the near future. This site has 15 employees, and encompasses 10,000 acres. Environmental remediation efforts are underway, and a portion of the field is being used as an oilfield testing center, where independent oil companies and others can test exploration and production innovations in an actual field setting.
- A DOE metallurgical research laboratory is located on a 42-acre site in a small city. It has 88 DOE employees, and has a variety of metallurgical production and testing facilities. It reports to the Office of Fossil Energy.
- A major multipurpose national laboratory is located in the Northeast on 5,265 acres over a sole source aquifer. The Laboratory reports to the Office of Science. It is overseen by a DOE Site Office with 35 employees (with support from an offsite DOE Operations Office) and is operated by 3,000 contractor employees. The laboratory also hosts over 4,000 visiting researchers each year. The Laboratory conducts a wide variety of physical, chemical, and biological research. A large accelerator on the site supports research in nuclear physics. The Lab operates a major synchrotron light source for materials and biological research, as well as other facilities for outside researchers.
- DOE is characterizing, and applying to the Nuclear Regulatory Commission for a permit to construct and operate, a permanent underground repository for civilian and military high-level radioactive waste.

1.2 Please provide an explanation of your department or agency organization including a description of where primary responsibility for compliance with environmental requirements and environmental programs resides.

The Department of Energy includes:

- eight Program Offices, reporting to the Under Secretary for Energy, Science and Environment, which are responsible for identifying, developing, and directing the policies and programs to accomplish the Department's non-defense missions;
- the National Nuclear Security Administration, which addresses defense programs, naval reactors, emergency operations, and nuclear nonproliferation;
- sixteen staff Offices, which provide administrative, management, and oversight support to the various Headquarters programs and offices;
- twenty-four national laboratories and technology centers, which house facilities where more than 30,000 scientists and engineers perform cutting-edge research;

- four power marketing administrations, each of which is a distinct and self-contained entity, similar to a wholly owned subsidiary of a corporation;
- nine Operations Offices, located outside of Washington, D.C., which oversee activities in support of two or more of the four missions assigned to the Department;
- the Energy Information Administration, which is a statistical agency that provides energy data, forecasts, and analyses.

The following page provides an organization chart for the Department.

Most of the Department's sites are managed by DOE Site Personnel and operated on a day-to-day basis by contractors. Operating requirements, including requirements for environment, safety and health performance, are established for these contractors through terms and specifications in their contracts.

The Department is subject to applicable environmental laws and regulations at the Federal, State, and local level. Under the Atomic Energy Act, the Department has direct regulatory authority for safety and health of workers at DOE nuclear facilities.

Primary responsibility for compliance with environmental requirements and environmental programs lies with line management within the Program Offices and the DOE Field Elements. These, in turn, are responsible, through the contracts they oversee, for ensuring compliance by the Department's contractors.

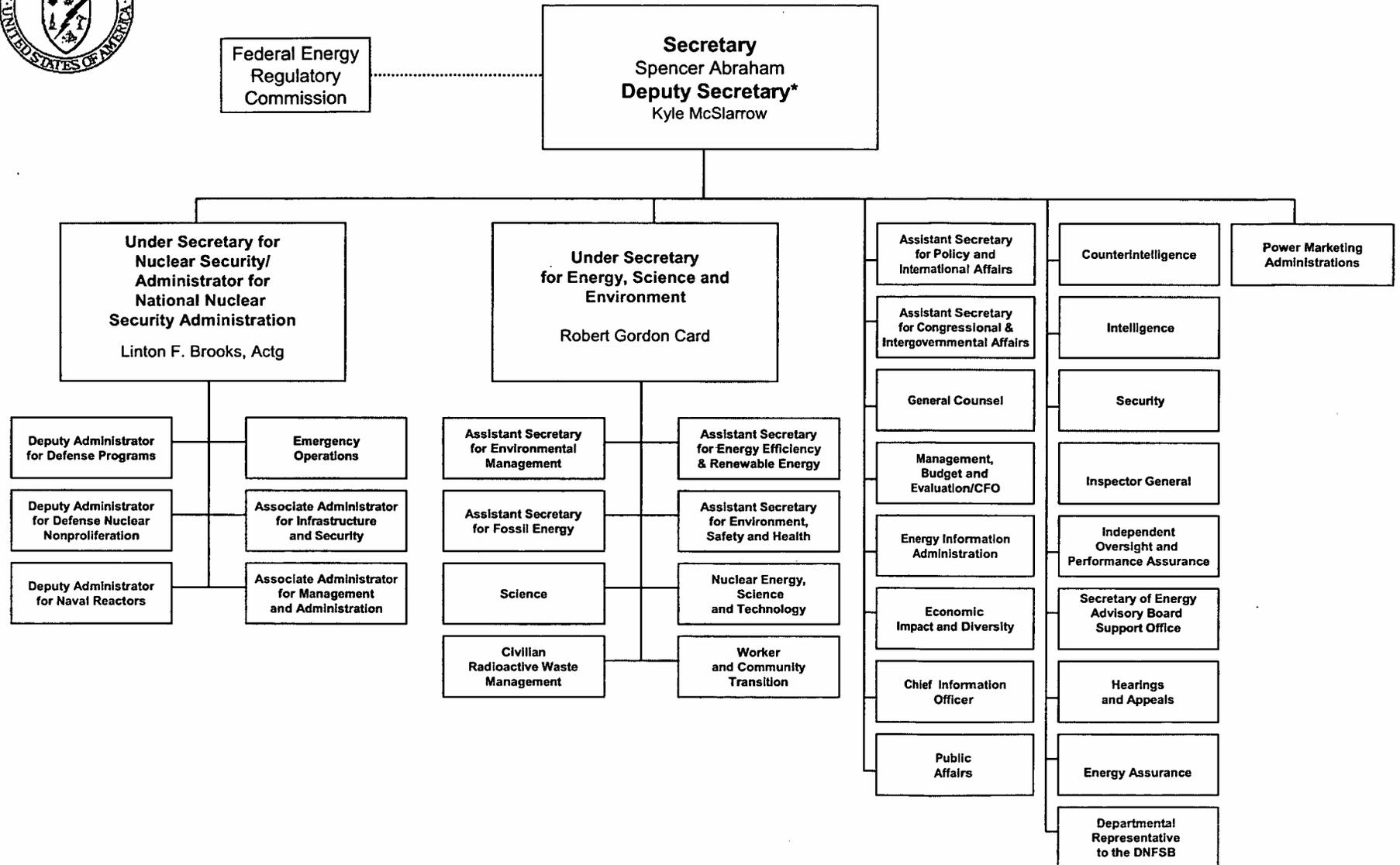
In addition, a major environmental responsibility of the Department, the multi-billion dollar cleanup of the legacy of waste from nuclear weapons production and other past activities, is conducted by the Office of Environmental Management.

The Department's headquarters Office of Environment, Safety and Health provides corporate infrastructure and technical resources that enable work to be performed in a safe, healthful, and environmentally sound manner. The Office develops compliance and stewardship programs and policies and guidance for environmental protection and pollution prevention. It supports the DOE mission by providing technical services, resources, and information-sharing capabilities to other elements of the Department. The Assistant Secretary for Environment, Safety and Health advises the Secretary of Energy on the status of the health and safety of DOE workers, the public, and the environment near DOE facilities. The Assistant Secretary for Environment, Safety and Health also serves as the Department's Environmental Executive.

The Office of Independent Oversight and Performance Assurance provides an independent assessment of the effectiveness of policies and programs in environment, safety and health; safeguards and security; cyber security; emergency management; and other critical functions of immediate interest to the Secretary, the Deputy Secretary, or the Administrator of the National Nuclear Security Administration. The Office is organizationally independent of the DOE offices that develop and implement policy and programs and can therefore objectively observe Departmental operations, providing unbiased information to senior DOE managers using a



DEPARTMENT OF ENERGY



* The Deputy Secretary also serves as the Chief Operating Officer

systematic oversight process that emphasizes performance and performance testing. Within this Office, the Office of Environment, Safety and Health Evaluations has the mission to assess the effectiveness of those environment, safety, and health systems and practices used by Field Organizations in implementing integrated management of environment, safety and health, and to provide clear, concise, and independent evaluations of performance in protecting our workers, the public and the environment from the hazards associated with DOE activities and sites.

1.3 Please estimate the number or percentage of facilities in your department or agency that have tenants on their facility, that have concessionaires on their facility and/or that occupy a building managed primarily by GSA or other “landlord.”

The most significant aspect of most DOE sites is that they are operated by contractors, whose staff far outnumber the DOE staff.

A few DOE sites have tenants, but this is the exception; this is not a major issue for DOE environmental compliance. Some of the tenants are other DOE organizations, and some are other government or private organizations. For example:

- DOE’s Nevada Test Site hosts staff and activities from Sandia National Laboratory, Los Alamos National Laboratory, and Lawrence Livermore National Laboratory.
- DOE’s Hanford site hosts the National Science Foundation’s laser interferometer gravitational wave observatory.
- DOE’s East Tennessee Technology Park (a former uranium enrichment plant) in Oak Ridge is undergoing environmental cleanup and reindustrialization/reuse of the assets (i.e., facilities, equipment, materials, utilities, and trained work force). This mission is being accomplished by cleaning up the site through the Environmental Management program’s management and integration contract and by forming partnerships with commercial interests who conduct environmental restoration, decontamination and decommissions, waste treatment and disposal, and diffusion technology development, in exchange for reduced rents.
- DOE’s Brookhaven (NY) site hosts the National Weather Service Upton Forecast Office, which includes a NEXRAD weather radar facility.
- DOE’s Hanford site leases land to the State of Washington, which in turn leases it out for two independent operations: US Ecology operates burial grounds for commercial low-level radioactive waste, and Energy Northwest (a consortium of public utility companies) operates a commercial nuclear power reactor.
- DOE’s National Energy Technology Laboratory hosts employees from the Department of Health and Human Services’ National Institute of Occupational Safety and Health, and the Department of Labor’s Mine Safety and Health Administration.

In addition, DOE’s national laboratories operate user facilities: major scientific facilities which are open to outside researchers. The laboratories take steps to ensure that all researchers on site are aware of, and comply with, environment, safety and health requirements and policies.

The percentage of DOE facilities that occupy a building managed by non-DOE “landlords” is very low. DOE’s headquarters buildings are managed by DOE, under delegation from the General Services Administration. A number of DOE laboratories are located on university-

owned land; however the buildings are owned by DOE, and most are managed by DOE. One DOE site (Sandia National Laboratory) is located on another agency's site (Kirkland Air Force Base).

2 POLICY

Does your department or agency have a formal, written policy that states a department or agency level commitment to compliance with environmental regulations?

If yes, is it readily available to department or agency personnel?

If yes, what is the date of the policy?

The Department of Energy provides formal and organized communication of its policies and directions to the organization through the DOE Directives System. This system includes the following types of documents, which are intended to direct, guide, inform, and instruct employees in the performance of their jobs and enable them to work effectively within the Department and with other agencies, contractors, and the public:

- *Policies*. Issued by the Secretary, policies state philosophy and values for the conduct of DOE work and are applicable to all DOE employees.
- *Orders, Manuals, and Notices* establish specific requirements, procedures, or responsibilities. They are mandatory for DOE organizations and employees. Appropriate requirements are imposed on DOE contractors through contract requirements.
 - o *Orders* contain broad requirements, with substantial flexibility for implementation.
 - o *Notices* contain temporary or time-sensitive requirements and may be issued quickly.
 - o *Manuals* may be issued when more detailed procedural requirements are needed.
- *Guides and Technical Standards* contain acceptable methods for implementing requirements contained in other directives. They are not mandatory.
 - o *Guides* contain administrative subjects and procedures.
 - o *Technical standards* provide DOE guidance on technical subjects not addressed in existing industry standards.

In addition, the Department issues *Rules or Regulations* which establish policy, standards, procedures, or responsibilities with the force of law. They are legally binding on all parties and groups to which they specifically apply, including contractors and the public. An example would be the Department's regulations for implementing the National Environmental Policy Act (10 CFR 1021).

The following Policies and Orders state the Department's commitment to compliance with environmental regulations. These, and all DOE directives, are publicly available on the World Wide Web at <http://directives.doe.gov> and in DOE reading rooms across the complex.

DOE Order 450.1 *Environmental Protection Program*

(<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/o4501.pdf>) (January 2003) has as its stated objective:

To implement sound stewardship practices that are protective of the air, water, land, and other natural and cultural resources impacted by Department of Energy operations, and by which DOE cost effectively meets or exceeds compliance with applicable environmental, public health, and resource protection laws, regulations, and DOE requirements. (§ 1)

Specifically, Order 450.1 requires implementation of environmental management systems which provide for:

the systematic planning, integrated execution, and evaluation of programs for compliance with applicable environmental protection requirements. (§ 4.a. (1)(c))

DOE Policy 450.6 *Secretarial Policy Statement: Environment Safety and Health* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4506.pdf>) (April 1998) states that:

We expect outstanding environment, safety and health performance as a matter of course in the Department of Energy. At stake are nothing less than the lives and livelihood of our workers and neighbors and a healthy environment to leave to our children. We must expect and demand from ourselves as both Federal employees and contractors only the best in terms of environment, safety and health performance. (p. 1)

[W]e are establishing a goal of ‘zero tolerance’ for serious accidents that result in life-threatening injuries or major environmental contamination. (p. 2)

DOE Policy 450.2A *Identifying, Implementing and Complying with Environment, Safety and Health Requirements* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4502a.pdf>) (May 1996) sets forth the framework for identifying, implementing and complying with environment, safety and health requirements so that work is performed in the DOE complex in a manner that ensures adequate protection of workers, the public and the environment.

An integrated review of safety requirements starts with a disciplined analysis of the work to be performed, the potential hazards associated with that work, and the operational and administrative controls required to conduct that work safely. On the basis of this analysis, an appropriate set of environment, safety and health requirements is identified to ensure adequate protection. This set includes all applicable statutory and regulatory requirements (p. 1)

The Department is committed to working with its contractors to achieve compliance with requirements. If cooperative efforts do not result in contractor performance that satisfies environment, safety and health requirements, the Department will not hesitate to seek compliance through the use of statutory, regulatory, and contractual enforcement tools. (p. 4)

DOE Policy 450.5, *Line Environment, Safety and Health Oversight* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4505.pdf>) (June 1997) lays out the key elements of line management’s oversight process for environment, safety and health. Management is to ensure that contractors have a robust, rigorous, and credible self-assessment program, which addresses:

Compliance with applicable requirements (rules, regulatory standards, contract terms) (p. 2)

In addition, DOE contractors are required to comply with environmental laws and regulations through a clause in the Department of Energy Acquisition Regulations, DEAR 970.5204-2 *Laws, Regulations and DOE Directives (Dec 2000)* (48 CFR 970) which states that:

In performing work under this contract, the contractor shall comply with the requirements of applicable Federal, State and local laws and regulations (including DOE regulations), unless relief has been granted in writing by the appropriate regulatory agency.
(paragraph (a))

Regardless of the performer of the work, the contractor is responsible for compliance with the requirements of this clause. The contractor is responsible for flowing down the requirements of this clause to subcontractors at any tier to the extent necessary to ensure the contractor's compliance with the requirements. (paragraph (e))

3 PLANNING

3.1 Does your department or agency have a formal process for establishing department- or agency-wide environmental compliance goals and priorities?

If yes,, are those goals formally conveyed to the organization below the department or agency level?

If yes, how is that process accomplished?

If yes, does your department or agency have a process to measure performance against those goals?

As stated above, the Department's policy is to fully comply with environmental laws and regulations. This is stated in Policies and Orders issued by direction of the Deputy Secretary (the Department's Chief Operating Officer) through the Department's Directives System which is described under Policy (Section 2).

The environmental remediation program conducted by DOE's Office of Environmental Management is directed toward cleaning up the legacy of waste and facilities from past activities. Many of these cleanup activities are conducted within the framework of Federal Facility Agreements under the Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) or Consent Orders under the Resource Conservation and Recovery Act (RCRA). The priorities, budget, and schedules for these activities are proposed by DOE, but are subject to congressional budget appropriations, and to negotiations with the other Federal and State parties to the agreements.

Performance measurement is discussed under Checking (Section 5.3, below).

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Establishing DOE Goals and Priorities

The process is accomplished through DOE Directives, as well as through DOE Secretarial Memoranda for Heads of DOE elements.

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(<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/o4501.pdf>) (January 2003) has as its stated objective

To implement sound stewardship practices that are protective of the air, water, land, and other natural and cultural resources impacted by Department of Energy operations, and by which DOE cost effectively meets or exceeds compliance with applicable environmental, public health, and resource protection laws, regulations, and DOE requirements. (§ 1)

Order 450.1 focuses on implementation of environmental management systems. In addition to regulatory compliance, these management systems are to provide for:

the systematic planning, integrated execution, and evaluation of programs for public health and environmental protection, and pollution prevention. (§ 4.a. (1)(a)&(b))

Order 450.1 explicitly requires DOE sites to:

Promote the long-term stewardship of a site's natural and cultural resources throughout its operational, closure and post-closure life cycle. (§ 4.b.(2))

Reduce or eliminate the generation of waste, the release of pollutants to the environment, and use of Class I ozone depleting substances through source reduction, re-use, segregation, and recycling and by procuring recycled-content materials and environmentally preferable products and services. (§ 4.b.(3))

DOE Policy 430.1 *Land and Facility Use Policy*

(<http://www.directives.doe.gov/pdfs/doe/doetext/neword/430/p4301.pdf>) states that DOE stewardship is to be based on the principles of ecosystem management and sustainable development and that DOE is to integrate its mission and other economic, ecological, social, and cultural factors into a comprehensive plan for each site to guide land and facility use decisions.

Beginning in 1972 the Department established and maintains seven National Environmental Research Parks. A National Environmental Research Park is an outdoor laboratory where research may be carried out to achieve national environmental goals, as articulated by the National Environmental Policy Act. The Parks, which are situated on DOE land holdings, are unique because they provide opportunities for researchers to study the compatibility of the environment with energy technology options, thus fostering the Department's environmental stewardship goals. The diverse geographical spread of the DOE National Environmental Research Park system provides an opportunity to preserve and study such diverse ecological systems as: Southeastern Mixed Forest (Savannah River Site, SC), Shrub-Steppe (Idaho National Engineering and Environmental Laboratory, ID; Hanford Site, WA), Juniper-Pinyon and Grassland (Los Alamos, NM), Eastern Deciduous Forest (Oak Ridge, TN), Tallgrass Prairie (Fermi Lab, IL), and Desert Shrub (Nevada Test Site). National Environmental Research Parks are described at <http://www.uga.edu/srel/ESSite/NERPhome.html> .

In addition to the National Environmental Research Park system, DOE has periodically established smaller, more specialized "ecologically preserved areas" and other specially protected sites at several of its installations around the United States. A few examples include the "La Semilla Preserve" at Sandia National Laboratory, Albuquerque, NM, and the *Amsinckia*

grandiflora Reserve at the Lawrence Livermore National Laboratory, Livermore, CA. As part of its environmental cleanup program, the Department is creating the Fernald Ecological Restoration Park at the site of a former uranium metal production facility northwest of Cincinnati, OH.

In 1999, the Department established leadership goals for Pollution Prevention and Energy Efficiency (Secretary of Energy Memorandum for Heads of Departmental Elements, *Pollution Prevention and Energy Efficiency Leadership Goals for Fiscal Year 2000 and Beyond* (November 12, 1999) (<http://tis.eh.doe.gov/P2/wastemin/P2goals.pdf>)). In establishing these goals, the Secretary of Energy stated that the Department's pollution prevention and energy efficiency leadership program would go *beyond compliance requirements* and be based on continuous and cost-effective improvements for the following key environmental objectives:

- We will design and operate our facilities using pollution prevention processes that lead to minimal waste generation and lowest life-cycle costs;
- We will diminish our use of environmentally harmful materials, equipment, and processes to minimize releases of toxic chemicals, ozone-depleting substances, and greenhouse gases;
- We will increase the energy efficiency of our buildings, laboratories, and production facilities while increasing our use of clean energy sources;
- We will increase our fleet vehicle efficiency and the use of low-polluting alternative fuels, including bio-based fuels and products; and
- We will purchase environmentally preferable products and services that meet our missions needs. (Memorandum, p. 1)

In his November 12, 1999 Memorandum establishing pollution prevention and energy efficiency goals for 2000 and beyond the Secretary established a goal of increasing purchases of EPA-designated items with recycled content to 100%. (RCRA Section 6002 requires Federal agencies to establish affirmative procurement programs for purchasing products designated by EPA that contain recycled material. Executive Order 13101 also charges Federal agencies to purchase recycled content and other environmentally preferable products.)

In November 2002, the DOE Agency Environmental Executive reiterated the Department's commitment to meet the pollution prevention goals, and requested that line management ensure that adequate funding is available to support pollution prevention. (<http://homer.ornl.gov/oepa/guidance/p2/p2leadershipgoals.pdf>)

On Earth Day 2003, the Secretary of Energy issued a Memorandum for the heads of all Departmental elements, which recounted DOE's progress in implementing environmental management systems, and our progress toward meeting our leadership goals for pollution prevention and energy efficiency (<http://homer.ornl.gov/oepa/guidance/p2/earthday2003.pdf>). The Secretary stated that:

It is my goal, consistent with the requirements of Executive Order 13148, *Greening the Government Through Leadership in Environmental Management*, to have environmental management systems in place at all major DOE facilities by the end of 2005.

Pollution prevention is a fundamental aspect of an effective environmental management system and the Department's approach to protecting the environment, worker safety, and the public. Environmental management systems required by DOE Order 450.1 must provide for the systematic planning, execution, and evaluation of departmental programs for pollution prevention.

The Department is already a leader in Greening the Federal Government. I intend for DOE to continue this leadership in the future. (Memorandum for Heads of All Departmental Elements, from Spencer Abraham, April 21, 2003, *Earth Day 2003*)

Measuring Performance

The Department's 2002 *Annual Report: Environment, Safety and Health* highlights progress in pollution prevention and implementation of environmental management systems (<http://tis.eh.doe.gov/paa/annualreports/2002ESHAnnualReport.pdf>).

To measure performance against our goals, the Department annually assesses its performance in achieving its pollution prevention goals, toxic chemical releases and purchases of products containing recycled contents and other environmentally preferable products. Pollution prevention and procurement and recycling data are reported by the Operations Offices and individual field sites via a web-based pollution prevention tracking and reporting system. The Office of Environment prepares two annual reports that are sent to the Offices of the Federal Environmental Executive and the Office of Management and Budget.

- The annual progress report on Executive Order 13148 *Greening the Government through Leadership in Environmental Management*: (<http://tis.eh.doe.gov/oepa/data/eo13148/2003.pdf>) discusses the Department's progress in implementing the requirements of the Executive Order, including progress on line management's implementation of environmental management systems, and progress in meeting the reduction goals for toxic chemical releases, waste generation and inventories of ozone-depleting substances.
- The annual progress report on Executive Order 13101 *Greening the Government Through Waste Prevention, Recycling and Federal Acquisition* (<http://tis.eh.doe.gov/oepa/data/eo13101/2003.pdf>) shows the Department's progress in recycling and procurement of environmentally preferable products. The Office of Administration is instrumental in preparing this report, especially in providing the Federal Procurement Data System data.
- The Office of Fossil Energy prepares its own annual report *The Office of Fossil Energy : Striving for Environmental, Security, Safety and Health Excellence* (<http://www.fossil.energy.gov/aboutus/esh/>) The Report for fiscal year 2002 reports on regulatory violations and environmental spills and releases, waste generation, affirmative procurement, and energy efficiency and alternative fuels usage. The report also details

progress on external certification and recognition such as the ISO 14001 standard, EPA's National Environmental Performance Track, and the Occupational Safety and Health Administration's Voluntary Protection Program for worker safety.

3.3 Does your department or agency have a process to identify potential environmental compliance issues (such as upcoming changes in law) that may affect your department or agency facilities?

If yes, is that process formal?

If yes, what tools does that process use to identify issues?

If no (the process is not formal), what methods are used to identify issues?

DOE's Office of Environment monitors emerging environmental regulations that may affect Departmental operations and projects. When an advance notice of proposed rulemaking or notice of proposed rulemaking is published in the Federal Register by another Federal agency with proposed requirements applicable to DOE operations, the Office notifies Program and Field organizations and solicits comments that are consolidated into a unified DOE response. When final regulations are published, the Office of Environment distributes notifications and/or guidance to Program and Field organizations.

DOE field sites are responsible for identifying State and local compliance requirements and issues.

3.4 Does your department or agency have formal pollution prevention programs that address environmental compliance issues at your department or agency?

The Department of Energy started its waste minimization program in the late 1980's. Over time, this program has expanded into a pollution prevention program which covers all waste generation, releases into all environmental media, recycling, resource conservation, and procurement of environmentally preferable products.

DOE Order 450.1 *Environmental Protection Program* requires all major DOE facilities to implement an environmental management system which (among other things) provides for the systematic planning, integrated execution, and evaluation of programs for pollution prevention, and for compliance with applicable environmental protection requirements (§ 4.a.(1)(b)&(c)). Program Officials must ensure that

sites under their purview include site-specific goals in the Integrated Safety Management System that contribute to the accomplishment of DOE pollution prevention and energy efficiency goals. (§ 5.c.(3))

sites under their purview develop and implement cost-effective pollution prevention programs that use life-cycle assessment concepts and practices in determining program return-on-investment. (§ 5.c.(4))

By following the environmental management system process, pollution prevention will be included in the analysis of aspects and impacts; in the development of site objectives, targets and goals for mitigating those impacts; and in the pollution prevention opportunity assessments done prior to implementation and operation; and will provide for continuous improvement as this process is repeated.

Also, the Secretary has issued pollution prevention and energy efficiency goals (<http://www.eh.doe.gov/p2/wastemin/P2goals.PDF>), and every year DOE Field Elements report progress in meeting pollution prevention goals.)

3.5 Does your department or agency have any other formal review programs for stewardship issues (e.g.; green buildings) that address or interact with environmental compliance programs for your department or agency?

If yes, please briefly identify the focus of those programs.

The Department has a variety of other formal review programs for stewardship issues. These include the following.

- Cultural Resources. DOE Policy 141.1 *DOE Management of Cultural Resources* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/141/p1411.pdf>) specifies that that DOE programs are to integrate cultural resource identification, evaluation, and management into DOE missions and activities.
- Archeological Activities. DOE annually completes the Federal Archeological Activities Questionnaire (based on data collected from affected sites) to provide information to the Department of Interior for its annual report to Congress on Federal agencies' archeological activities. Information provided to Interior includes: acreage managed and inventoried; identified archeological sites; overview, identification and evaluation projects; data recovery projects; unanticipated discovery projects; National Register of Historic Places status of archeological sites; expenditures for archeological studies; permitted or authorized investigations; law enforcement actions and expenditures; Archeological Resources Protection Act financial information; and collections and records information.
- Ecosystem Management and Sustainable Development. DOE Policy 430.1 *Land and Facility Use Policy* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/430/p4301.pdf>), states that DOE stewardship is to be based on the principles of ecosystem management and sustainable development and that DOE is to integrate its mission and other economic, ecological, social, and cultural factors into a comprehensive plan for each site to guide land and facility use decisions. The policy also promotes the use of adaptive management techniques that adjust management practices and direction to changes in environmental, mission, economic, cultural and social factors.
- Affirmative Procurement. Acquisition Letter 2002-05 *Greening the Government Requirements in Acquisition* ([http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/WebAttachments/AL2002-05/\\$File/AL2002-05.pdf](http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/WebAttachments/AL2002-05/$File/AL2002-05.pdf)) was issued to continue the

use of the Green Acquisition Advocates who were appointed by the Heads of Contracting Activities pursuant to earlier Acquisition Letter 2000-03 and add coverage for three new Greening the Government Executive Orders not originally included in Acquisition Letter 2000-03. The Green Acquisition Advocates serve as procurement experts and team members for Greening the Government initiatives within each DOE Contracting Activity. The Acquisition Letter describes appropriate roles and responsibilities for the Green Acquisition Advocates and the DOE procurement community as they partner with other DOE personnel to implement the environmental and energy, water, and fuel efficiency objectives of the Executive Orders.

Headquarters procurement offices, DOE-managed sites, and contractor-operated sites are required to report annually on information regarding purchases of EPA-designated items during the previous fiscal year to the DOE Agency Environmental Executive. The internet-based reporting site is at <http://tis.eh.doe.gov/p2/ap/default.htm> . If less than 100 percent of DOE's EPA-designated item purchases contain recycled content, DOE's Environmental Executive must justify to the Federal Environmental Executive why the items were not purchased, or submit a plan for increasing purchases of the designated item(s). DOE's Agency Environmental Executive uses the results of the RCRA Annual Summary Report to identify strengths and weaknesses in the Department's program and to provide feedback to program and procurement offices and contractors.

- Radiological Health and Safety. DOE Policy 441.1 *Department Of Energy Radiological Health And Safety Policy*, (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/441/p4411.pdf>) establishes policy for DOE elements to conduct radiological operations to ensure the protection of the health and safety of employees, contractors, and the general public and the framework for DOE to create and maintain a system of regulatory policy and guidance for radiation protection standards.
- Life-Cycle Asset Management. DOE Order 430.1A *Life Cycle Asset Management* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/430/o4301a.pdf>) (October 1998) requires the integration of the management of physical assets, from acquisition through operations and disposition, linking the various life-cycle phases. Stewardship of these assets is to be accomplished in a safe and cost-effective manner to meet the DOE mission and to ensure protection of workers, the public, and the environment. The Order requires that Program Offices conduct reviews of Field Element performance (§7.c.(8)); lead in establishing expected program performance objectives and program performance criteria (§7.c.(10)); and lead oversight of Field Elements to ensure that performance criteria and measures are in place to effectively achieve program and project objectives (§7.c.(15)).
- National Environmental Policy Act (NEPA). DOE Order 451.1B *National Environmental Policy Act Compliance Program* (<http://tis.eh.doe.gov/nepa/tools/orders/doeo4511b.html>) (October 2000), requires that in addition to mandates established in NEPA and the regulations, the DOE NEPA Compliance Program must include a system to track and annually report progress in implementing any commitment for environmental impact mitigation that is essential to render the impacts of a proposed action not significant, or that

is made in a record of decision (§ 4.g.). It also requires line management to incorporate NEPA values, such as analysis of cumulative, off-site, ecological, and socioeconomic impacts, to the extent practicable, in DOE documents prepared under the Comprehensive Environmental Response, Compensation, and Liability Act (§ 5.a.(13)). The Order requires the Director of the Office of NEPA Policy and Compliance to

- perform independent reviews of proposed actions as appropriate to ensure that NEPA requirements are being met (§ 5.g.(3));
 - provide leadership for continuous improvement of DOE's implementation of NEPA (§ 5.g.(5)); and
 - solicit comments from NEPA Compliance Officers, NEPA Document Managers, and other involved persons on lessons learned for each completed environmental assessment and environmental impact statement and prepare and disseminate a quarterly summary (§ 5.g.(6)).
- Energy Systems Acquisition Advisory Board. DOE Order 413.3 *Program and Project Management For The Acquisition Of Capital Assets* (October 2000) (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/413/o4133.pdf>), provides DOE “project management direction for the acquisition of capital assets that are delivered on schedule, within budget, and fully capable of meeting mission performance and environmental, safety, and health standards” (§ 1.a.). Pursuant to the Order, the Assistant Secretary for Environment, Safety and Health serves as a member of the Energy Systems Acquisition Advisory Board, for proposals designated as Major Systems Projects (i.e., those with total project cost of \$400 million or greater) and certain Other Projects (with total project costs less than \$400 million). The Assistant Secretary for Environment, Safety and Health advises the Secretarial Acquisition Executive, or his designee, on any environmental, health and safety issues raised during the Energy Systems Acquisition Advisory Board decision-making process. The Order also requires the establishment of a DOE project management and reporting system for tracking project performance, corrective actions, and requiring trending data (Chapter VI, § 4.)
 - Sustainable NREL. The National Renewable Energy Laboratory (NREL) in Colorado is DOE’s premier laboratory for renewable energy research and development and a lead laboratory for energy efficiency research and development. The laboratory’s “Sustainable NREL” initiative focuses on energy use in its building operations, designing energy efficient and environmentally sensitive new buildings, cutting water consumption, decreasing greenhouse gas emissions, reducing the impact of local travel on the environment, using less fossil-based fuel for local operations, and creating less waste by reducing, reusing and recycling materials for Laboratory operations (http://www.nrel.gov/sustainable_nrel/). During the past year, National Renewable Energy Laboratory has made good progress toward sustainability:
 - Undertaking an initiative to develop a 25-year site development plan, which will balance development requirements with National Renewable Energy Laboratory's mission objectives of corporate energy, environmental and economic responsibility.
 - Establishing a greenhouse gas emissions baseline and a target of reducing those emissions by 10 percent by 2005. In 2002, National Renewable Energy Laboratory was the first Federal facility member of the Environmental Protection Agency's

- Climate Leaders partnership to be publicly recognized for its leadership in establishing greenhouse gas reduction goals.
 - Purchasing 10 percent of its electricity from a commercial wind generator.
 - Reducing the Laboratory's use of petroleum-based fuel to less than 500 gallons a year. Twenty of National Renewable Energy Laboratory's 48-vehicle fleet are alternative fuel vehicles.
- Los Alamos National Laboratory Sustainable Design Guide. Los Alamos National Laboratory was awarded top place in a national competition for excellence in environmental design for its comprehensive *Sustainable Design Guide*, (<http://www.nrel.gov/docs/gen/fy03/32763.pdf>), a 250-page book that details guidelines designers and builders can use to make new buildings more sensitive to the climate and less expensive to operate. The guide offers checklists and recommendations for the design-through-construction process, including skills that should be included on the project team, designs that yield maximum use of natural light and solar energy, guidelines for selecting building materials, heating and cooling systems, and landscape design and management, among others. The first project of its type in the Department of Energy, the guide was judged winner in the Outstanding Sustainable Planning or Design Project category of the 2003 competition sponsored by the Federal Planning Division of the American Planning Association. DOE's National Renewable Energy Laboratory developed the guide in cooperation with Los Alamos staff.
- Million Solar Roofs Initiative. Western Area Power Administration has a history of promoting and implementing solar energy, including solar thermal and photovoltaic systems, on both agency and power customer facilities. Western supports the President's Million Solar Roofs Initiative by:
 - identifying photovoltaic and solar thermal opportunities at Western-owned facilities,
 - coordinating and facilitating requests for solar installation among Western customers and interested parties, and
 - using Western's marketing and information mechanisms to publicly support the Million Solar Roofs Initiative.
- Energy Star[®]. Five DOE buildings – including most recently the Germantown MD office facility – have been designated as energy efficient “Energy Star[®]” buildings.
- Federal Energy Management Program. The Department of Energy's Federal Energy Management Program works to reduce the cost and environmental impact of the Federal government by advancing energy efficiency and water conservation, promoting the use of distributed and renewable energy, and improving utility management decisions at Federal sites (http://www.eere.energy.gov/office_eere/pdfs/federal_fs.pdf). The Federal Energy Management Program reports agencies' progress annually in an the Annual Report to Congress and the President, manages interagency working groups, and offers policy guidance and direction.
- Renewable Power Options. Western Area Power Administration, in cooperation with the Federal Energy Management Program, has created a program designed to increase the

renewable power options available to Federal agencies. Western offers three renewable energy products to these agencies (<http://www.wapa.gov/powerm/pmtags.htm>). Under the Renewable Power option, Western can buy renewable energy for Federal agencies located within Western's 15-state service territory. The Supplemental Renewable Energy product allows current customers to acquire renewable energy to supplement their current firm hydropower deliveries from Western. In the Renewable Energy Certificates, or Green Tags program, Western can buy renewable energy and then sell the energy's environmental attributes to a Federal customer.

3.6 Does your department or agency address safety or security issues as part of any environmental compliance or stewardship review programs?

The Department's Integrated Safety Management System provides DOE's umbrella framework for integrated management of environment, safety, and health. DOE Policy 450.4 *Safety Management System Policy* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4504.pdf>) (October 1996) establishes Objectives, Guiding Principles, and Core Functions for Integrated Safety Management. Throughout the Policy, the term "safety" is used synonymously with "environment, safety and health" to encompass protection of the public, the workers, and the environment.

It is Department policy that [environment, safety and health] management systems described herein shall be used to systematically integrate [environment, safety and health] in management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. (p. 1)

The Objective of Integrated Safety Management is stated as follows.

The Department and Contractors must systematically integrate [environment, safety and health] into management and work practices at all levels so that missions are accomplished while protecting the public, the worker, and the environment. This is to be accomplished through effective integration of [environment, safety and health] management into all facets of work planning and execution. In other words, the overall management of [environment, safety and health] functions and activities becomes an integral part of mission accomplishment. (p. 2)

DOE Order 450.1 *Environmental Management Program* explicitly requires that Department facilities implement environmental management systems as part of the existing Integrated Safety Management Systems.

The Department also has a program for Safeguards and Security Management, DOE Policy 470.1 *Integrated Safeguards and Security Management* (<https://www.directives.doe.gov/pdfs/doe/doetext/restrict/neword/470/p4701.pdf>) (May 2001). This policy parallels the Principles and Core Functions of Integrated Safety Management. A number of DOE sites are moving to integrate these requirements into a single "integrated

management system” encompassing planning and management of environment, safety and health as well as safeguards and security.

3.7 Is community or other non-Governmental perspective solicited, considered or reflected in your environmental compliance and/or stewardship program?

DOE Policy 450.1 *Environment, Safety and Health Policy for the Department of Energy Complex* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4501.pdf>) (June 1995) includes the following guiding principles by which every member of the DOE community should conduct his or her activities.

We will conduct our activities in an atmosphere of trust and confidence that is based on open, honest, and responsive communication.

We will actively encourage participation by all interested parties in our activities

We will encourage and promote the sharing of environment, safety and health information and resources. (p. 1)

DOE Policy 141.2 *Public Participation* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/141/p1412.pdf>) (April 2003) is intended to ensure “that public participation and community outreach are integral and effective parts of DOE activities, and that decisions are made with the benefit of significant public perspectives.”

Public participation is a fundamental component in program operations, planning activities, and decision-making within DOE. (p. 2)

The methods used to encourage public participation will vary widely in nature and scope and may include, but are not limited to, informal conversations, written and electronic communication, scheduled meetings and workshops, legally required hearings, and Federal-State-local-Tribal meetings. Under this Policy, DOE will actively seek, consider, and respond in a timely manner to the views of its stakeholders, thereby providing them an opportunity to influence decisions. (p. 2)

Senior Departmental program, staff office, and field managers are accountable for ensuring that public participation and community relations activities meet the goals of this Policy, are fully coordinated, and reflect DOE principles and values. Program or staff office and project managers are to identify and include appropriate public participation and community relations activities in their decision-making processes.

Several specific activities provide examples supporting these broad requirements.

- Site Specific Advisory Boards. Major DOE sites which are conducting environmental restoration and waste management activities have established Site-Specific Advisory Boards

to provide consensus advice and recommendations to DOE. Nine local community boards are chartered under the Environmental Management Site Specific Advisory Board Charter pursuant to the Federal Advisory Committee Act.

- National Environmental Policy Act. DOE encourages enhanced public participation in the decision-making process mandated by the National Environmental Policy Act (NEPA). In a 1994 Secretarial Memorandum, *National Environmental Policy Act Policy Statement* <http://tis.eh.doe.gov/nepa/tools/guidance/Guidance-PDFs/iv-3.pdf> (June 17, 1994), the Secretary stated that “the NEPA process is a valuable planning tool and provides an opportunity to improve the Department of Energy decisions and build public trust.” The Memorandum stated that whenever possible, the Department is to provide enhanced opportunities for public involvement in the environmental assessment process, which ordinarily includes, at a minimum, early public notice of the Department’s intent to prepare an environmental assessment and opportunity for interested parties, on request, to review environmental assessments prior to DOE approval.

In addition, guidance issued by DOE’s Office of NEPA Policy and Assistance, *Effective Public Participation Under the National Environmental Policy Act* (August 1998) <http://tis.eh.doe.gov/nepa/tools/guidance/pubpart2.html> , contains detailed guidance on effective public participation in DOE NEPA activities. This guidance helps implement the Departmental goals of actively seeking and considering public comments and incorporating the views of stakeholders in making decisions; informing the public in a timely manner about and empowering them to participate in DOE’s decision-making processes; and incorporating credible, effective public participation processes into all of DOE’s activities, at Headquarters and in the Field. DOE maintains a public web site of the status of its NEPA activities to facilitate public involvement (<http://tis.eh.doe.gov/nepa/whatsnew.html>) .

- Site Environmental Reports. The annual Site Environmental Reports issued by DOE sites (see Section 5.3) serve an important role in communicating the Department’s environmental performance to our neighbors, our regulators, and other concerned stakeholders.
- National Environmental Performance Track. Five DOE sites or programs are recognized as Charter Members of EPA’s National Environmental Performance Track program. (This is more than any other Federal agency.) One of the requirements for Performance Track recognition is a commitment to public outreach and performance reporting which is tailored to the size, scale, and setting of operations, and designed to meet community concerns.
- State and Tribal Working Group. The State and Tribal Government Working Group was established in 1989 to incorporate State and Tribal concerns in DOE’s planning for cleanup of radioactive and hazardous chemical wastes at Departmental facilities within or adjacent to State and Tribal boundaries. The Department provides funding for a single representative from each affected State and Tribe to participate in the meetings of the working group.
- National Governors Association/Department of Energy Task Force. The National Governors Association/Department of Energy Task Force, which is supported by the Department of Energy, consists of Department officials and representatives from Governors' offices from

states which host DOE facilities. The purpose of the task force is to assist the Department of Energy in improving coordination of its major program decisions with Governors' offices and State regulators and to ensure such decisions reflect input from these key State officials and stakeholders.

- National Association of Attorneys General. Over the past six years, National Association of Attorneys General and DOE have established a working group of state Assistant Attorneys General and key DOE staff to discuss current regulatory and statutory enforcement/compliance issues, working towards their common goals of ensuring the protection of human health and the environment through the cleanup and the proper management of DOE activities.
- Cooperative Agreement. The Department of Energy funds a cooperative agreement that provides both logistical and staff support for the State and Tribal Government Working Group as well as meeting with elected legislators from States with particular interests in Office of Environmental Management activities. With the support of this agreement, the National Conference of State Legislatures serves as a conduit for informational exchange regarding the cleanup of the nuclear weapons complex among the Department, State legislatures, legislative staff, state executive branch staff, and Tribal government representatives.
- Occupation and Environmental Health Studies. Under a Memorandum of Understanding, three agencies within the Department of Health and Human Services conduct an independent program of occupational and environmental health studies which focus on health effects that may have resulted from DOE operations, including the production of nuclear weapons and other nuclear energy-related research activities.
 - The National Institute for Occupational Safety and Health conducts occupational epidemiological studies at DOE sites.
 - The National Center for Environmental Health conducts community-based dose reconstructions and epidemiological studies related to historical off-site releases of hazardous materials at selected DOE sites.
 - The Agency for Toxic Substances and Disease Registry conducts public health assessments in communities near DOE Superfund sites to determine whether people's health is being affected by current exposures to hazardous substances.

Each of these agencies considers effective and meaningful public involvement in their health-related activities to be essential in ensuring the credibility of the efforts. Each agency employs one or more tools to encourage public involvement and communicate study results and information. One such tool is the formation of a Federally chartered committee, and four Health Effects Subcommittees are currently in place to advise the agencies' work at Hanford, Oak Ridge, Savannah River, and Idaho. For communicating results of occupational epidemiological studies, the National Institute for Occupational Safety and Health offers presentations to workers as well as to the community members. In addition, the National Center for Environmental Health and the Agency for Toxic Substances and Disease Registry may offer public workshops, round-table discussions, public availability sessions, and drafts of reports to communicate results and obtain input and comments on their public health

activities at the DOE site. DOE recognizes that public involvement is a cornerstone of programs that successfully address the health concerns of workers and citizens potentially affected by DOE operations and fully supports these efforts under the Memorandum of Understanding.

4 IMPLEMENTATION AND OPERATION

4.1 Does your department or agency have a formal program to identify and allocate resources, including FTE and funds, to address environmental program (including compliance assurance) needs?

At DOE, “line management is directly responsible for the protection of the public, the workers, and the environment” (DOE Policy 450.4, p. 2). Therefore, funding for environment, safety and health is considered part of the cost of conducting our work, and is not provided through a separate budget.

DOE Policy 450.1 *Environment, Safety and Health Policy for the Department of Energy Complex* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4501.pdf>) (June 1995) states the following principle:

We will allocate appropriate resources to support environment, safety and health activities.

One of the Guiding Principles of Integrated Safety Management is “Balanced Priorities:”

Resources shall be effectively allocated to address [environment, safety and health], programmatic, and operational considerations. Protecting the public, the workers, and the environment shall be a priority whenever activities are planned and performed. (DOE Policy 450.4, p. 2)

DOE Order 450.1 *Environmental Protection Program* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/o4501.pdf>) establishes a specific requirement for Program Secretarial Officers, the Administrator for the National Nuclear Security Administration, and Administrators for the Power Administrations, to:

Request, through the annual Departmental budgetary process, the funding and resources needed for implementing the requirements of this Order and funding to address findings and recommendations from oversight and self-assessment activities conducted in accordance with DOE Policy 450.5. (§ 5.c.(2))

The Order also requires DOE Operations/Field/Site Office Managers to:

Ensure site annual budgetary processes include the funding and resources needed to implement this Order, including pollution prevention program implementation and monitoring. (§ 5.d.(7))

On an annual basis, each DOE contractor is required to:

review and update, for DOE approval, its [environment, safety and health] performance objectives, performance measures, and commitments consistent with and in response to

DOE's program and budget execution guidance and direction. Resources shall be identified and allocated to meet the [environment, safety and health] objectives and performance commitments as well as maintain the integrity of the entire System. (Department of Energy Acquisition Regulations, 970.5223-1 – *Integration of Environment, Safety and Health into Work Planning and Execution* (DEC 2000), § (e))

The environmental remediation program conducted by DOE's Office of Environmental Management is directed toward cleaning up the legacy of waste and facilities from past activities. Many of these cleanup activities are conducted within the framework of Federal Facility Agreements under the Comprehensive Environmental Restoration, Compensation, and Liability Act (CERCLA) or Consent Orders under the Resource Conservation and Recovery Act (RCRA). The priorities, budget, and schedules for these activities are proposed by DOE, but are subject to congressional budget appropriations, and to negotiations with the other Federal and State parties to the agreements.

The budget request for the Office of Environmental Management program is initially formulated in the Program Offices, where public comments are considered in developing the program strategies, priorities, and funding requests that are reflected in the budget that is submitted to Congress. The Environmental Management budget request is linked with program planning and execution through the use of a common list of projects that describe packages of work to be performed by the Office of Environmental Management (<http://www.em.doe.gov/budgetoffice/index.html>). DOE's Office of Budget manages, integrates, and coordinates budget formulation, presentation, and execution, as well as financial management and control activities for the Office of Environmental Management, including the review, development, and implementation of applicable Federal Office of Management and Budget, DOE and Environmental Management policies and requirements (<http://www.em.doe.gov/budgetoffice/missfunc.html>). The \$7.24-billion budget request for the Office of Environmental Management for Fiscal Year 2004 includes performance management plans, corporate performance metrics, contract performance measures/incentives and life-cycle costs. <http://www.house.gov/hasc/openingstatementsandpressreleases/108thcongress/03-03-07card.html> .

4.2 Does your department or agency have formal training programs to address environmental compliance issues (including competence training required by regulation)?

If yes, please describe who receives the training.

If yes, please describe the frequency and delivery method for the training.

Environmental compliance issue training and competence training required by regulation are generally developed and conducted at the site level. For example, DOE Order 450.1 *Environmental Protection Program*, requires that all DOE elements ensure that site Integrated Safety Management Systems include an environmental management system that includes:

policies, procedures, *and training* (1) to identify activities with significant environmental impacts; (2) to manage, control, and mitigate the impacts of these activities; and (3) to

assess performance and implement corrective actions where needed. (§ 4.a.(2); emphasis added).

DOE Order 450.1 also requires that the Director of Management, Budget and Evaluation, in coordination with other DOE elements, develop or revise existing DOE directives, policies, and documents to, among other things, include training on environmental requirements and environmental management systems in the standard senior-level management training for program managers, contracting personnel, procurement and acquisition personnel, facility managers, and other personnel.

The headquarters Office of Environment, Safety and Health delivers environmental training to Field Offices and others on an as-requested basis

(<http://tis.eh.doe.gov/oepa/rcrabrochure/page6.html>). Examples of topics covered include

- CERCLA Orientation and Remedial Investigation/Feasibility Study,
- Resource Conservation Recovery Act – Orientation and Definition of Solid and Hazardous Waste
- Resource Conservation Recovery Act – Corrective Action, and
- Emergency Planning and Community Right-To-Know Act – Section 313 Toxic Release Inventory Reporting Requirements.

DOE develops and conducts various environmental-related training courses to help its personnel (including contractor) understand and comply with new Federal environmental regulatory programs. They are offered as guidance training, on-line workshops, and tutorials. Student notebooks or tables of contents are available for these courses. Examples of guidance training courses are:

- [Principles for Accelerating Remedial Design and Implementation](#)
- [Principles of Environmental Restoration: Techniques for Streamlining RCRA \(HSWA\) and CERCLA Projects](#)
- [Facility Disposition: Principles for Integrated Safety and Project Management](#).

The following are examples of on-line workshops:

- [Order 450.1 Environmental Protection Program Workshop](#)
- [Applicable or Relevant and Appropriate Requirements \(ARARs\)](#)
- [DOE's RCRA Orientation Workshop \(three days\)](#) .

Examples of tutorials include:

- [Environmental Management Systems Primer for Federal Facilities \(DOE/EH-0573\)](#). This guide (developed with the Environmental Protection Agency) is designed to help Federal managers who are considering adopting an environmental management system.
- [Emergency Planning & Community Right-To-Know Act \(EPCRA\)](#). This tutorial consists of five modules providing: inventory of hazardous, extremely hazardous & toxic chemicals (Module 1); Emergency Planning Notification (Module 2, Section 301-303); Emergency Releases (Module 3, Section 304); Community Right-to-Know (Module 4, Section 311 & 312); and Toxic Chemical Release Inventory (Module 5, Section 313).

Training programs are specifically geared to the appropriate audience. For example, the Department's online affirmative procurement training program is designed for facility personnel with acquisition responsibilities.

Frequency and delivery of training is driven by regulatory requirements (e.g., hazardous waste operator training must be refreshed periodically) and by emergence of new regulations.

4.3 Does your department or agency have formal training programs to address environmental stewardship issues?

If yes, please describe who receives the training.

If yes, please describe the frequency and delivery method for the training.

Environmental stewardship issue training is generally developed and conducted at the site level. See discussion in Section 4.2.

Environmental stewardship training is often conducted for specific issues. The Office of Environment, Safety and Health delivers environmental training to Field Offices and others on an as-requested basis (<http://tis.eh.doe.gov/oepa/training.html>). Examples include a course, *Facility Disposition: Principles for Integrated Safety and Project Management*, which describes how integrated safety management principles and functions are addressed during facility disposition phase, and a tutorial, *Environmental Management Systems Primer for Federal Facilities* (DOE/EH-0573), which helps Federal managers understand environmental management systems and how they can help improve environmental management at their facilities.

Following the issuance of DOE Order 450.1 *Environmental Protection Program*, DOE's headquarters Office of Environment offered a two-day workshop in February 2003 on the contents and requirements of the new Order. The workshop was offered at Headquarters, and provided by videoconference to twenty DOE sites across the country.

A variety of training programs (part of the Pollution Prevention Program Plan) have been and are conducted on pollution prevention and affirmative procurement. Examples include the following:

- DOE's Office of Management, Budget and Administration developed a mandatory, online affirmative procurement training program for all purchase card users and approving officials.
- At line management's request, several DOE organizations have collaborated on providing training on "Greening the Government" (<http://tis.eh.doe.gov/p2/p2train.asp>).
- The National Nuclear Security Administration has held biannual Pollution Prevention Hands-on Technology Training.
- The Office of Environment conducts monthly conference calls with Site and Program Office pollution prevention coordinators to discuss programs, ask questions, and provide lessons learned.
- The Office of Management, Budget and Administration produced a "Policy Flash" that told staff, especially the Green Acquisition Advocates, to take the training the Office was providing on their website ([http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/WebAttachments/Flash2001-28/\\$File/Flash2001-28.pdf](http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/WebAttachments/Flash2001-28/$File/Flash2001-28.pdf)).

DOE personnel also take advantage of training offered by Department of Interior and Department of Justice in areas such as cultural resource protection.

Training programs are specifically geared to the appropriate audience. For example, the Department's online affirmative procurement training program is designed for facility personnel with acquisition responsibilities.

Frequency and delivery of training is driven by emergence of new issues or requirements (e.g., the complex-wide training offered on issuance of DOE Order 450.1, *Environmental Protection Program*).

Guidance. Several environmental management system guidance documents have been prepared and distributed to DOE and contractor personnel. These include:

- *Environmental Management Systems Primer for Federal Facilities* (DOE/EH-0573) (December 1997) (developed jointly with EPA)
<http://homer.ornl.gov/oepa/guidance/ems/emsprimer.pdf>;
- *Environmental Management Systems: Frequently Asked Questions* (October 1996)
<http://homer.ornl.gov/oepa/guidance/ems/iso14001.pdf> ;
- *Environmental Management Systems: Getting Started* (March 1998)
<http://homer.ornl.gov/oepa/guidance/ems/start7.pdf> ;
- *Environmental Management Systems: Institutionalizing Pollution Prevention* (March 1998)
<http://homer.ornl.gov/oepa/guidance/ems/ipp.pdf> ;
- Acquisition Letter 2002-05 *Greening the Government Requirements in Acquisition*
(<http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/Procurement/Acquisition+Letters?OpenDocument>)
- DOE O 450.1 Guide: Integration of Pollution Prevention into Environmental Management Systems, (under development).

Awards. The Greening the Government Executive Orders require Federal agencies to establish awards programs to recognize innovative or exemplary projects and practices in waste prevention, recycling and procurement of environmentally preferable products and services (<http://tis.eh.doe.gov/p2/p2integratedhomepage/p2awprog.asp>). Sites and operations have been recognized by both the Department and the White House for significant contributions in the areas of waste prevention, recycling, and affirmative procurement.

- The DOE Pollution Prevention awards program is in its ninth year. In 2002, 13 awards were granted for pollution prevention projects and practices conducted in 2001. In 2003, 17 awards were granted for pollution prevention projects and practices conducted in 2002.
- White House Closing the Circle Awards for Federal employees and facilities made awards to four DOE sites in 2002 for pollution prevention activities conducted in 2001, and to one DOE site for pollution prevention activities conducted in 2002.

4.4 Does your department or agency have standard operating procedures that are provided across your department or agency to assist subordinate levels in environmental compliance or environmental management?

If yes, please briefly describe those procedures.

If no, are those procedures provided at a different level in your department or agency organization?

At DOE, line management is responsible for implementing environment, safety and health protection measures. Policies and broad requirements are established Department-wide. Some procedural requirements are established at the Department level, such as occurrence reporting (DOE Order 231.1A *Environment, Safety, and Health Reporting*, and DOE Manual 231.1-2 *Occurrence Reporting and Processing of Operations Information*, and NEPA compliance (10 CFR 1021).

Management systems for environment, safety and health are established at the site level. These include standard operating procedures for conducting work activities.

DOE does establish Technical Standards, where needed, which may be adopted as standard operating procedures at the site level. Technical Standards are established through a formal process through the Departmental Standards Committee. As one example, DOE Technical Standard (DOE-STD-1153-2002)

(<http://tis.eh.doe.gov/techstds/standard/std1153/Frontmatter.pdf>) provides methods, models and guidance within a graded approach that contains screening and analysis protocols for cost-effectively demonstrating protection of biota (plants and animals) from potential effects of ionizing radiation. The Graded Approach methodology is widely implemented by DOE sites and programs for demonstrating compliance with DOE's existing and recommended dose limits for biota protection, and has received strong national and international interest. It is also being used to support radiological protection of the environment program elements within environmental management systems at DOE sites. These dose limits are consistent with dose rate guidelines identified by the International Atomic Energy Agency (IAEA) and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) as being protective of populations of plants and animals.

5 CHECKING

5.1 Does your department or agency have a formal program for auditing the environmental compliance status of your department or agency facilities?

DOE Policy 450.5, *Line Environment, Safety and Health Oversight* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4505.pdf>) (June, 1997) establishes “the Department’s expectations for DOE line management environment, safety and health oversight and for the use of contractor self-assessment programs as the cornerstone for this oversight.” The policy is broader than just audits and assessments, and places these tools in the context of performance measures and performance indicators; data collection, analysis, and corrective actions; and continuous feedback and performance improvement.

The process is built on the self-assessment program of the contractor who operates a DOE site. The contractor is to have in place a “robust, rigorous, and credible self-assessment program linked to the DOE Safety Management System,” which includes elements that address:

- a. Performance measures and performance indicators
- b. Line and independent evaluations
- c. Compliance with applicable requirements (rules, regulatory standards, contract terms)
- d. Data collection, analysis, and corrective actions
- e. Continuous feedback and performance improvement. (DOE Policy 450.5, p. 2)

The results and conclusions of the contractor self-assessments are to be made available to DOE Federal employees responsible for evaluating site operations.

DOE line management at DOE Field Elements must ensure that contractors have such a self-assessment program in place. Once it is in place, DOE Field Element oversight is conducted through operational awareness of contractor work activities, review of performance measures, and other review and assessment activities. The DOE Field Office should also conduct

A periodic, value-added appraisal of sufficient frequency and duration to confirm the contractor's safe performance of work and the effectiveness of the self-assessment program. A cost-effective appraisal meeting the intent of this policy might need to be no more than 2 weeks in duration and no more than once a year at each site. The scope of periodic appraisals, including additional areas of review, is determined by field elements with input from Headquarters and the contractor. DOE uses the analysis of contractor self assessment results, performance measures and operational awareness, as input to scoping the annual appraisal. Appraisals by non-line organizations, such as [the Office of Independent Oversight and Performance Assurance], or external organizations, such as the Environmental Protection Agency and State agencies, are fully considered and not ordinarily duplicated. (DOE Policy 450.5, p. 3)

In addition to these periodic reviews, DOE may conduct “for-cause” reviews, as necessary.

DOE Headquarters line management offices are to monitor Field Element and contractor performance, participate when appropriate in Field Element appraisals and assessments, and to conduct onsite reviews of DOE Field Element performance (including verification of their appraisals of the contractor) as necessary.

DOE also has an Office of Independent Oversight and Performance Assurance, which reports directly to the Deputy Secretary of Energy, and provides an independent assessment of the effectiveness of policies and programs in environment, safety and health; safeguards and security; cyber security; emergency management; and other critical functions of immediate interest to the Secretary, the Deputy Secretary, or the Administrator of the National Nuclear Security Administration. The Office is organizationally independent of the DOE offices that develop and implement policy and programs and can therefore objectively observe Departmental operations, providing unbiased information to senior DOE managers using a systematic oversight process that emphasizes performance and performance testing.

Within this Office, the Office of Environment, Safety and Health Evaluations does evaluate environmental compliance during Inspections of Environment, Safety, and Health Management at Department facilities. These management inspections, discussed below under external (non-facility lead) audits (Section 5.1.3) encompass all aspects of operation, from development and institutionalization – including implementation of management systems – to working level (e.g., review of specific projects, observation of work activities, and assessment of essential safety systems). These management inspections also evaluate management effectiveness against laws, Code of Federal Regulation rules, Departmental requirements, and specific environment, safety, and health performance standards (<http://www.oa.doe.gov/esh/mission.html>).

DOE Order 450.1 *Environmental Management Program* requires the Office of Independent Oversight and Performance Assurance to evaluate the effectiveness of DOE Headquarters and Field Organization implementation of the Order (§ 5.e.).

In addition, seven DOE sites have been registered by independent third-party auditors as conforming to the ISO 14001 standard for environmental management systems.

5.1.1 If yes, does your department or agency use a standard audit protocol or process?

If yes, please identify that protocol

In general, line management at DOE sites determines the protocol to be used for site-level audits or assessments.

Office of Independent Oversight and Performance Assurance environment, safety and health management inspections are conducted in accordance with the Appraisal Process Protocols and the Office of Environment, Safety and Health Evaluations Appraisal Process Guide established by that Office.

5.1.2 If yes, are internal (facility lead) audits conducted?

If yes, how frequently are those audits scheduled to occur? And, how frequently are those audits actually occur?

If yes, which of the following does scope of the assessment cover? (Circle as appropriate) air regulations, water regulations, solid waste regulations, energy conservation, water conservation, executive order requirements, occupational health, safety, others (please describe), don't know.

DOE Policy 450.5 *Line Environment, Safety and Health Oversight* establishes the framework for the conduct of management system self-assessments at DOE sites. These self-assessment programs are required to address compliance with applicable requirements, which would include air, water, solid waste, and radiation protection regulations.

DOE Order 450.1 requires DOE line management to ensure that environmental management systems are effectively implemented. This involves both self-assessments by the contractor responsible for site operations (including environmental compliance) and DOE review of the contractor's management system and its site self-assessment program.

The frequency and results of these assessments at the site level are not tracked at Headquarters.

5.1.3 If yes, are external (non-facility lead) audits conducted?

If yes, please identify who conducts those audits (e.g., contractor, department or agency HQ team, etc.)

If yes, how frequently are those audits scheduled to occur? And, how frequently are those audits actually occur?

As described above, DOE's Office of Independent Oversight and Performance Assurance provides an independent assessment of the effectiveness of policies and programs in environment, safety and health; safeguards and security; cyber security; and emergency management. Although environmental compliance is just one aspect of the environment, safety and health programs evaluated, the focus on management results in programmatic weaknesses being identified for correction with the resulting improvement in overall site environment, safety and health programs including environmental compliance.

For example, the environment, safety and health management inspection at one site identified specific requirements for management of expired mercury vapor lamps that had not been implemented in a hazardous waste management area located within a building. The agreed-upon plan with the State for the decontamination and demolition of this building had identified Resource Conservation and Recovery Act requirements as Applicable or Relevant and Appropriate Requirements for the management of hazardous waste. However, the subcontractor procedures and practices for hazardous waste management in this building were not consistent with these requirements. Rather than have a finding for non-compliance with environmental requirements, the environment, safety and health management inspection finding was directed at the contractor for not establishing adequate measures to ensure that subcontractors fully implement Departmental waste management requirements, and examples were cited where

subcontractor documents and practices did not meet applicable environment, safety and health requirements. Going beyond compliance to identify a management weakness facilitates correction of the processes that caused the non-compliances, in addition to correcting the specific non-compliance instances identified.

At another site, the environment, safety and health management inspection found that although most waste management activities were being performed within external and internal requirements, several deficiencies were identified in shop and subcontractor work areas. As a result, an opportunity for improvement was noted in the environment, safety and health management inspection report to enhance management of waste activities to ensure continued compliance with regulatory requirements. Specifically, the suggestion was made to increase environmental awareness for operations involving waste generation in these areas to ensure that activities are performed in accordance with environmental regulations and Departmental and site requirements.

There were eight scheduled environment, safety and health management inspections between October 2001 (when a transfer of function placed environment, safety and health evaluations within the Office of Independent Oversight and Performance Assurance) and December 2002. For 2003, there were six scheduled environment, safety and health management inspections. All eight scheduled management inspections were completed in 2001/2002. For 2003, three environment, safety and health management inspections have been completed, two are still scheduled to be completed this year, and one has been postponed, but a different site has been added for inspection this year. The Office of Independent Oversight and Performance Assurance uses a priority ranking of sites based on environment, safety and health as a factor in scheduling which sites will be inspected each year.

Published reports of the evaluations are available at <http://reports.oa.doe.gov/>. A lessons-learned report summarizes the first eight Safety Management Evaluations in 2001 and 2002 (<http://reports.oa.doe.gov/eshevals/200303lessonslearned/200303lessonslearned.pdf>).

5.2 Does your department or agency headquarters program direct environmental compliance auditing programs for your department or agency facilities either by conducting the audits or defining the audit criteria or policies for use at field facilities?

If no, are such programs the responsibility of those lower in the organization?

If yes, please describe where those responsibilities fall within your department or agency organization?

DOE Policy 450.5 *Line Environment, Safety and Health Oversight* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4505.pdf>) (June 1997), described above, provides the framework for assessing environmental compliance at DOE facilities. As described above, most audit/assessment activity is conducted at the site level. DOE's Office of Independent Oversight and Performance Assurance conducts periodic Safety Management Evaluations which address compliance in the context of reviewing management system effectiveness.

5.3 Does your department or agency have a formal process for monitoring and measuring actual compliance with environmental regulations across your department or agency facilities?

If yes, please describe the metrics for that process (e.g., notices of violation issued to facilities, internal audit compliance findings).

If yes, does your department or agency have an electronic or Internet based system to collect and monitor environmental compliance data?

If no, do you have some other system to collect and monitor environmental compliance data?

The Department tracks compliance status in a variety of ways. At the Department-wide level, enforcement actions (notices of violation) are reported and tracked through the Department's occurrence reporting system.

In addition, DOE sites issue an annual Site Environmental Report. The reports include information on regulatory compliance, on permits, and on permit exceedances. This information is reviewed at the Headquarters level, and is used in compiling an annual environment, safety and health report.

Compliance is also tracked at the site level, by the site contractors and the DOE Field Offices.

Occurrence Reporting and Processing System

DOE Order 231.1A *Environment, Safety, and Health Reporting* (under final review for issuance, to update and replace the current Order) requires the submission of Occurrence Reports in accordance with DOE Manual 231.1-2 *Occurrence Reporting and Processing of Operations Information* (under final review for issuance, to replace the current Manual), which specifies, in detail, the reports that must be filed, the persons or organizations responsible for filing the reports, the recipients of the reports, the formats in which the reports must be prepared, and the time schedules for filing the reports (§ 4). DOE Order 231.1A also requires the Assistant Secretary for the Office of Environment, Safety and Health to:

establish and maintain policies and guidance for the Occurrence Reporting Program and assess implementation of occurrence reporting requirements to identify needed improvements. (§ 5.e.(4))

Information gathered in response to the requirements in the Order and Manual area used for analyzing the:

Department's performance in environmental protection and the safety and health of its workers and the public. This information is also used to develop lessons learned and document events that impact DOE operations. (§ 2.)

According to DOE Manual 231.1-2, reportable occurrences include, but are not limited to the following:

- Any enforcement action (other than associated with the Price Anderson Amendment Act) involving 10 or more cited violations, and/or an assessed fine of \$10,000 or more. (§ 6.3, Group 9 (1))
- Any written notification from an outside regulatory agency that a site/facility is considered to be in noncompliance with a schedule or requirement (e.g., Notice of Violation, Notice of Intent to Sue, Notice of Noncompliance, Warning Letter, Finding of Violation, Finding of Alleged Violation, Administrative Order, or a similar type of notification or enforcement action). (§ 6.3, Group 9 (2))
- Any release (onsite or offsite) of a hazardous substance, material, waste, or radionuclide from a DOE facility, that is above permitted levels and exceeds the reportable quantities specified in 40 CFR 302 or 40 CFR 355. (§ 6.3, Group 5, Subgroup A (1))
- Any release (onsite or offsite) of a hazardous substance, material, waste, or radionuclide from a DOE facility that must be reported to outside agencies in a format other than routine periodic reports. (§ 6.3, Group 5 Subgroup A (4))
- Any occurrence causing significant impact to any ecological resource for which DOE is a trustee (e.g., destruction of a critical habitat, damage to an historic/archeological site, damage to wetlands). (§ 6.3, Group 5 Subgroup B (1))

DOE Manual 231.1-2 states that the Office of Environment, Safety and Health (EH-1) is responsible for maintaining an unclassified central database, the Occurrence Reporting and Processing System (ORPS) (§ 8.1). ORPS is an electronic, internet-based system (<http://tis.eh.doe.gov/paa/orps.html>). Specific instructions on the reporting of occurrences via hard copy or the electronic database are listed in DOE Guide 231.1-1, *Occurrence Reporting and Performance Analysis Guide*.

The Manual also states that

Each Facility Manager must collect and disseminate to their personnel information from occurrences related to their facilities and similar DOE facilities. This information includes both lessons learned and good practices. Each Facility Manager should use this information for trending and analysis and for early identification and correction of deteriorating conditions. (§ 8.2)

Annual Reporting

The Department's 2002 *Annual Report: Environment, Safety and Health* (<http://tis.eh.doe.gov/paa/annualreports/2002ESHAnnualReport.pdf>) reports on environmental compliance as one element of environmental performance (p. 13). The metric reported is the total number of Notices of Violation. The Office of Environment reviews (and has reported at various times in the past) several other environmental regulatory compliance metrics; these have included:

- total number of violations cited in Notices of Violation,

- dollar total of fines assessed,
- number of fines assessed equal to or greater than \$10,000,
- permit exceedances,
- percentage of milestones met on time in cleanup agreements.

The following performance indicators are used by the National Nuclear Security Administration at the corporate level to monitor environmental compliance. It should be noted that National Nuclear Security Administration Site and Program Offices also use performance indicators to monitor environmental compliance together with audits and inspections. Environmental Releases Performance Measure (measuring the protection of the environmental under the site's control):

- Non-Radiological:
 - State Pollution Discharge Elimination System/National Pollution Discharge Elimination System (SPDES/NPDES) permit excursions,
 - Other reportable environmental excursions;
- Radiological:
 - Site radiological air effluent releases requiring reporting under DOE regulations,
 - Site radiological liquid effluent requiring reporting under DOE regulations.

In addition, the National Nuclear Security Administration uses the Occurrence Reporting and Processing System (described above) to capture, follow and resolve environmental issues.

The annual Site Environmental Report is another tool used by DOE and our sites for review of environmental regulatory compliance. DOE Order O 231.1A requires the submission of Annual Site Environmental Reports in accordance with DOE Manual M 231.1-1A *Environment, Safety and Health Reporting Manual*, (September 1995)

(<http://www.directives.doe.gov/pdfs/doe/doetext/neword/231/m2311-1c2.pdf>). According to the Manual, each DOE Field Element manager and director is to prepare an integrated Annual Environmental Report for each calendar year that:

- Characterizes site environmental management performance including data on effluent releases, environmental monitoring, and estimates of radiological doses to the public associated with releases of radioactive material from DOE sites;
- Summarizes any environmental occurrences and responses made thereto that were reported during the calendar year;
- Confirms compliance with environmental standards and requirements; and
- Highlights significant programs and efforts, including environmental performance indicators and/or performance measures programs. (§ 1.)

Examples of DOE Site Environmental Reports can be found at the following sites:

<http://www.llnl.gov/saer/>, <http://hanford-site.pnl.gov/envreport/2001/>,
<http://www.bechteljacobs.com/port/port-aser2001.htm> .

DOE's Office of Fossil Energy prepares its own annual report *The Office of Fossil Energy: Striving for Environmental, Security, Safety and Health Excellence*. The Report for fiscal year 2002 reports on regulatory violations and environmental spills and releases, as well as other stewardship issues.

Site Level Monitoring and Measurement

Environmental compliance is also tracked at the site level through local performance measures; these are not tracked centrally at Headquarters.

DOE Order 450.1 *Environmental Protection Program* requires sites, as part of their environmental management system, to:

ensure the early identification of, and appropriate response to, potential adverse environmental impacts associated with DOE operations, including, as appropriate, preoperational characterization and assessment, and effluent and surveillance monitoring. (§4.b.(4))

Contractors are required to describe, as part of their Integrated Safety Management System:

how the contractor will establish, document, and implement ... performance objectives, performance measures, and commitments [for environment, safety and health, including pollution prevention and waste minimization] (Department of Energy Acquisition Regulations, 970.5223-1 – *Integration of Environment, Safety and Health into Work Planning and Execution* (DEC 2000), § (d))

On an annual basis, the contractor:

shall review and update, for DOE approval, its [environment, safety and health] performance objectives, performance measures, and commitments consistent with and in response to DOE's program and budget execution guidance and direction. (Department of Energy Acquisition Regulations, 970.5223-1 – *Integration of Environment, Safety and Health into Work Planning and Execution* (DEC 2000), § (e))

Review of Compliance Data from Regulators

DOE's Office of Environment also uses data in the compliance database maintained by the Environmental Protection Agency (EPA), through internet sites, including

- Sector Facility Indexing Project
- Enforcement and Compliance History Online (ECHO)
- Online Tracking Information System (OTIS)
- Environmental Compliance Status Report (for Federal Facilities).

We have found that these data require validation with our sites, and often need to be updated and corrected. Routine review and correction of data on these sites remain the responsibility of individual DOE sites. The Office of Environment also reviews EPA compliance reports such as the former quarterly Compliance Status Reports, and the biennial State of Federal Facilities Reports.

6 CORRECTIVE ACTION

6.1 Does your department or agency have a formal process to review information gathered regarding your department or agency facilities environmental compliance and non-compliance to analyze possible root causes for non-compliance?

If yes, does your department or agency have a formal process to provide corrective action information to your department or agency facilities based on the review?

Top Management Review

The Under Secretary for Science, Energy and Environment meets quarterly with the Assistant Secretaries and Directors of his reporting Program Offices. For this meeting, they prepare and present a site-by-site summary of environment, safety and health performance over the past quarter.

The Environment, Safety and Health Advisor to the National Nuclear Security Agency Administrator prepares and provides quarterly, to the Administrator and the Assistant Administrators and Directors, performance indicators results. These performance indicators are presented as site-by-site summaries of environment, safety and health performance over the past quarter.

DOE Directives System

DOE Order 210.1 *Performance Measures and Analysis of Operations Information* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/210/o2101c2.pdf>) (May 1996) establishes a framework for DOE elements to identify, monitor, and analyze data that measures the environment, safety and health performance of DOE facilities, programs, and organizations. Data are to be used to demonstrate improving or deteriorating performances relative to identified goals. The data are to be used in conjunction with a program to analyze and correlate the information to suggest necessary improvements through the identification of good practices and lessons learned.

DOE Order 231.1 *Environment, Safety, and Health Reporting* (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/231/o2311c2.pdf>) (September 1995) ensures the collection and reporting of environment safety and health information required by law or regulation or that is essential to evaluate DOE operations. It also identifies opportunities for improvement necessary for planning purposes within DOE.

Information acquired pursuant to DOE Order 231.1A *Environment, Safety, and Health Reporting* (described above, in Section 5.3) is analyzed for generic implications and for opportunities to improve operations. DOE Manual 232.1-1A, (soon to be replaced by Manual 231.1-2) *Occurrence Reporting And Processing Of Operations Information* describes practices and procedures for performing the following:

- timely identification, categorization, notification, and reporting to DOE management of reportable environmental and related occurrences at DOE-owned and -leased facilities;
- review of occurrences to assess the significance, root causes, generic, implications, and the need for corrective actions;
- timely evaluation and implementation of appropriate corrective actions;
- dissemination of occurrence reports to DOE operations and facilities to prevent similar occurrences and facilitate analyses; and
- maintenance of a central DOE system for reporting, processing, retrieving and analyzing unclassified, nonsensitive Occurrence Reports.

DOE has also issued a Root Cause Analysis Guidance Document, DOE-NE-STD-1004-92 (<http://tis.eh.doe.gov/techstds/standard/nst1004/nst1004.pdf>) and other DOE Technical Standards.

Office of Environment, Safety and Health

The Office of Environment aggregates and reviews data from the annual Site Environmental Reports, across all the sites, and over a period of years, to see whether there are patterns of environmental performance which require attention and future guidance. Such “roll-up” reviews have been conducted for radiation releases to the environment and for groundwater.

The Office of Analytical Studies, established by the recent reorganization within DOE’s Office of Environment, Safety and Health, has the following mission.

Evaluate the Department of Energy’s effectiveness, vulnerabilities, and trends in protecting the public, workers and the environment. Conduct activities aimed at enhancing contractor accountability for environment, safety and health performance and achieving desired behaviors by integrating performance assessment with contract remedies, terms and conditions. (EH *Mission and Function* statements, June 2003)

This Office:

Prepares meaningful and easily understood assessments of the Department’s overall effectiveness in protecting the public, the workers and the environment.

Provides corporate environment, safety and health analyses to support top management decision-making and increase awareness of environment, safety and health performance issues.

Prepares Quarterly Reports on environment, safety and health performance for the Secretary’s Office.

Prepares and issues DOE Annual Environment, Safety and Health Report that summarizes overall environment, safety and health performance for the Department,

including successes, needs for improvement and cross-cutting issues that require management attention in the coming year.

Develops complex[-wide] and site specific analyses to identify vulnerabilities, trends and emerging issues of interest to senior DOE and contractor management, and the public.

Develops, promotes and facilitates the implementation of a lessons-learned program.

Conducts analyses of operating experience and root cause analysis to support continuous improvement in environment, safety and health performance across the entire DOE complex. (EH *Mission and Function* statements, June 2003)

The Office of Analytical Studies oversees the Department's Lessons Learned program (<http://tis.eh.doe.gov/ll/>), and prepares a biweekly Operational Experience Summary (available at <http://tis.eh.doe.gov/paa/oesummary/oesummary2003.html>) which highlights environment, safety and health occurrences of concern.

6.2 Does your department or agency have a formal process to review findings on non-compliance to ensure that where corrective actions for those findings require funding, that the funding is obtained and directed towards resolving the finding?

DOE Order 450.1 *Environmental Protection Program* specifies that this as a Line Management responsibility. (See also response in Section 4.1 concerning budget process, and Section 7.2.)

In addition, findings on environmental compliance identified during a environment, safety and health management inspection conducted by the Office of Independent Oversight and Performance Assurance require development of a corrective action plan. The plan is approved at a level in the line organization that assures funding of the actions. The Office of Independent Oversight and Performance Assessment provides comments on the corrective action plan.

6.3 Does your department or agency have a system to ensure specific responsible entities including but not limited to offices, programs and/or facilities are accountable for activities that result in non-compliance or variation from agency policies and goals?

DOE's management system for environment, safety and health includes the guiding principle that line management is responsible for protection of the public, workers, and the environment (DOE Policy 450.4 *Safety Management System Policy*). Another guiding principle is "Clear Roles and Responsibilities" for environment, safety and health.

Clear and unambiguous lines of authority and responsibility for ensuring [safety and environmental protection] shall be established and maintained at all organizational levels within the Department and its contractors. (DOE Policy 450.4, p. 2)

DOE Order 450.1 *Environmental Protection Program* establishes general requirements in section 4 for implementing environmental management systems and for integrating environmental management systems into DOE's existing integrated safety management systems. In section 5 "Responsibilities" Order 450.1 identifies specific responsibilities for implementing the requirements for:

- Assistant Secretary for Environment, Safety and Health,
- Program Secretarial Offices, the Administrator for the National Nuclear Security Administration, and Administrators for the Power Administrations,
- DOE Operations/Field/Site Office Managers,
- Office of Independent Oversight and Performance Assurance,
- Director of Management Budget and Evaluation.

The Under Secretary for Science, Energy and Environment meets quarterly with the Assistant Secretaries and Directors of his reporting Program Offices. For this meeting, they prepare and present a site-by-site summary of environment, safety and health performance over the past quarter.

The Environment, Safety and Health Advisor to the National Nuclear Security Agency Administrator prepares and provides quarterly, to the Administrator and the Assistant Administrators and Directors, performance indicators results. These performance indicators are presented as site-by-site summaries of environment, safety and health performance over the past quarter.

DOE has also established a goal of "zero tolerance" for serious accidents that result in life-threatening injuries or major environmental contamination (DOE Policy 450.6 *Secretarial Policy Statement: Environment, Safety and Health*):

Should such an event occur, the appropriate Principal Secretarial Officer will meet promptly and personally with the [the Secretary and Deputy Secretary] to thoroughly review causes of the event, corrective action plans and the effectiveness of Integrated Safety Management at the site. Appropriate Department of Energy Field and contractor managers will also be asked to attend and participate. (p. 2)

DOE also holds its contractors accountable for environment, safety and health performance. Department of Energy Acquisition Regulations provide that in the event of a "catastrophic event" (including "significant damage to the environment") DOE may reduce the contractor's fee for the evaluation period "by an amount up to the amount earned." (DEAR 970.5215-3 *Conditional Payment of Fee, Profit, or Incentives* (DEC 2000), 48 CFR 970).

At the Brookhaven National Laboratory on Long Island, previously undetected tritium contamination was discovered in 1997 in the groundwater under the site. As a result of the contractor's slow identification of and response to this problem, the Secretary of Energy terminated the operating contract at the site, citing the contractor's lack of attention to environment, safety and health as well as lack of trust with the community.

7 MANAGEMENT REVIEW

7.1 Where in your department or agency does the environmental program reside (e.g., facilities management, policy office)?

At DOE, line management is responsible for environmental protection. One of the Guiding Principles of Integrated Safety Management is “Line Management Responsibility” for environment, safety and health.

Line management is directly responsible for the protection of the public, the worker, and the environment. (DOE Policy 450.4 *Safety Management System Policy*. p. 2)

The Department’s Office of Environment, Safety and Health supports all line organizations with guidance, regulatory advocacy, data collection, and information sharing. This Office provides the Departmental point of contact for environment, safety and health issues.

7.2 Does your department or agency fund environmental compliance/performance assurance programs directly?

(This question addresses whether environmental compliance is a separate part of your department budget or whether its is included in the “operational” budget)?

Because line management is responsible for environment, safety and health, the Department’s environment, safety and health programs are funded as part of line management “operational” budget. One of the Guiding Principles for Integrated Safety Management is “Balanced Priorities:”

Resources shall be effectively allocated to address environment, safety and health, programmatic, and operational considerations. Protecting the public, the workers, and the environment shall be a priority whenever activities are planned and performed. (DOE Policy 450.4 *Safety Management System Policy*)

Current compliance activities are funded by line managers. DOE Order 450.1 *Environmental Protection Program* provides that line management is responsible for requesting, through the annual Departmental budgetary process, the funding and resources needed for implementing the environmental protection requirements of this Order and funding to address findings and recommendations from oversight and self- assessment activities conducted in accordance with DOE Policy 450.5, *Line Environment, Safety and Health Oversight*.

See also discussion under Section 4.1.

The remediation of legacy waste and facilities is the responsibility of the Department’s Office of Environmental Management, which implements this multi-billion dollar program. Much of this effort is directed toward “compliance” with CERCLA and RCRA. This program has its own line item budget, (\$7.4 billion in 2003) as established by Congressional appropriation.

7.3 How many personnel are directly dedicated to the environmental management program at your department or agency headquarters level?

The headquarters Office of Environment, within the Office of Environment, Safety and Health, has a staff of forty-nine (including management and support staff), which includes

- Office of Air, Water and Radiation Protection Policy and Guidance,
- Office of Pollution Prevention and Resource Conservation Policy and Guidance, and
- Office of NEPA Policy and Guidance.

Headquarters line Program Offices have about twelve environmental staff. In addition, the Office of the General Counsel at Headquarters has a staff of eleven in the Office of the Assistant General Counsel for Environment.

The Office of Environmental Management (a line program) has about 370 headquarters staff to manage the Department's site remediation and legacy waste management program.

7.4 Does your agency identify environmental compliance assurance or stewardship as a factor against which organizational management is rewarded or may be held accountable?

See response to Question 6.3.

8. ADDITIONAL BACKGROUND QUESTIONS

It is assumed that those responding to these questions have the expertise, knowledge and understanding to provide an "expert" opinion on the design and implementation of a successful environmental management program. Based on that assumption, you are requested to respond to the questions below. Also, please provide any additional comment you feel would improve the outcome of this effort.

8.1 Please describe what you believe to be an "ideal" Federal program to ensure Federal facility compliance with environmental regulations. Where appropriate, please comment on the role of "stewardship" in such a program.

The Department of Energy has found that a "one size fits all" approach is not appropriate for the diversity of our sites and activities. Even more so, we believe that a "one size fits all" program would not be appropriate for the diversity of Federal facilities and activities. One size does *not* fit all; rather, an appropriate approach must be identified for each department or agency, depending upon its mission, its organization, its culture, and the important environmental aspects which it must address.

We believe that environmental management systems support this needed flexibility. They provide for identification of requirements, and their incorporation into the management system. Environmental management systems provide a tool for maintaining compliance, achieving beyond-compliance results, and minimizing environmental impacts.

Pollution prevention provides a framework for reducing environmental impacts, and for addressing compliance problems. A life-cycle planning approach can help prevent current and future activities from leaving a legacy to be cleaned up in the future.

While there can be no single "ideal" Federal program, there are none-the-less elements which will help ensure successful programs. These include: top management support and commitment; adequate funding; and trained and qualified staff (both line staff and environmental support staff). In addition, it is important that environment, safety and health be seen as a line management responsibility – as part of conducting the agency's "mission" – and that line management be held accountable for environment, safety and health performance.

8.2 Please describe any metrics you believe appropriate to judge or "score" the overall environmental compliance status of a Federal department.

The Department has used a variety of compliance metrics; none is free of drawbacks. The general concerns which should be addressed in establishing such metrics include:

- What is the purpose of the metrics? (For example, is it: public reporting? encouraging agency management improvement? comparing agencies? shaming poor performers?)
- What metrics best reflect "environmental compliance status"? (For example: Notices of violation? Fines and penalties? Permit exceedances? Some index combining these?)

- How accurate are the available data? (For example, the Department – along with numerous other commenters in the public docket – has found that EPA’s database is not always current or accurate.)
- How can “scores” be normalized across agencies to reflect their size, the complexity of their activities, and the severity of their potential environmental aspects? (Or should they be?)

8.3 Please provide your opinion on what is the greatest current policy barrier to robust environmental compliance programs in the Federal government.

Some major barriers include:

- Regulatory programs developed under differing statutes that create conflicting, overlapping, or redundant requirements.
- Separate State and Federal regulatory authority over the same activity.
- Lack of a unified Federal approach to radiation protection requirements.
- Inconsistent interpretation of regulatory requirements by the regulators.
- Unwillingness (by regulators, and sometimes by agencies) to use the flexibilities available under the current regulatory structure.
- Environmental requirements that do not take worker safety into account.

8.4 Please describe any recommendation you have for enhancing EMS implementation across the Federal government.

1. Promote integration of environmental management systems and the National Environmental Policy Act. There has been conceptual support for this from the Council on Environmental Quality. This is an opportunity to enhance the National Environmental Policy Act as a tool to support environmentally sound decisions, and to enhance (and maybe jump start) environmental management systems by building on more than thirty years of environmental analysis and impact identification at Federal agencies .

2. Provide “templates” that guide organizations in identifying environmental aspects (as well as potential compliance requirements) by type of facility or work conducted. These would allow agencies and facilities which conduct common activities to identify the issues they will likely want or need to address. A few examples of activities common at Federal facilities might include the following.

- office/administrative
- construction
- building maintenance
- building renovation
- grounds maintenance
- residential housing
- hospitals
- motor pools
- water treatment plant

- wastewater treatment plant
- provide drinking water
- chemical laboratories.

8.5 Please describe ways to ensure that field/facility level entities understand and respond to their environmental compliance and stewardship responsibilities.

1. Establish clear lines of responsibility and authority:
 - Assign to line management the responsibility for environment, safety and health performance;
 - Provide the training and technical support needed for managers to perform;
 - Provide the resources needed;
 - Measure performance; and
 - Hold managers accountable.
2. Establish basis for gaining recognition for compliance/stewardship and reward excellent performance.
3. Encourage development of stewardship/compliance opportunity assessment teams (conceptually similar to pollution prevention opportunity assessments) that tap into and recognize the “on-the-floor” expertise of workers and may lead to increased personal interest in advancing compliance/stewardship.

8.6 Please describe improvements you would make to your current environmental compliance and/or stewardship program

We believe that our emphasis on getting environmental management systems in place at all of our major facilities, as a part of an integrated management system for environment, safety and health, is the major improvement we can make in the near term.

8.7. Please provide any additional information or opinion that you believe is relevant to this effort.