

Approved: 1-15-03  
Review Date: 1-15-05  
Chg 1: 1-24-05  
Chg 2: 12-7-05

**SUBJECT: ENVIRONMENTAL PROTECTION PROGRAM**

---

1. **OBJECTIVES.** To implement sound stewardship practices that are protective of the air, water, land, and other natural and cultural resources impacted by Department of Energy (DOE) operations and by which DOE cost effectively meets or exceeds compliance with applicable environmental; public health; and resource protection laws, regulations, and DOE requirements. This objective must be accomplished by implementing Environmental Management Systems (EMSs) at DOE sites. An EMS is a continuing cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental goals. These EMSs must be part of Integrated Safety Management Systems (ISMSs) established pursuant to DOE P 450.4, *Safety Management System Policy*, dated 10-15-96.
  
2. **CANCELLATION.** DOE O 5400.1, *General Environmental Protection Program*, dated 11-9-88 and DOE N 450.4, *Assignment of Responsibilities for Executive Order 13148, Greening the Government through Leadership in Environmental Management*, dated 2-05-01. Cancellation of a Directive does not, by itself, modify or otherwise affect any contractual obligation to comply with the Directive. Cancelled Directives that are incorporated by reference in a contract remain in effect until the contract is modified to delete the references to the requirements in the cancelled Directives.
  
3. **APPLICABILITY.**
  - a. **DOE Elements.**
    - (1) Except as noted in paragraph 3c, this Order applies to all DOE elements listed on Attachment 1 that are responsible for the management and operation of the Department's facilities, including elements of the National Nuclear Security Administration and power administrations.

The Administrator of NNSA shall assure that NNSA employees comply with their respective responsibilities under this Order.
    - (2) Where ISMSs are not applicable, DOE elements must ensure the implementation of EMSs. These DOE elements must interpret all references to ISMSs within this Order to mean EMSs.

---

Vertical line denotes change

b. DOE Contractors.

The Contractor Requirements Document (CRD), Attachment 2, sets forth requirements of this Order that will apply to contractors responsible for the management and operation of the Department-owned facilities whose contracts include the CRD.

- (1) This CRD must be included, as appropriate, in all site/facility management contracts involving activities associated with the use, storage, disposal and transportation of waste; emissions to air; discharges to water; and management of cultural and other natural resources.
- (2) This Order does not apply to other than site/facility management contracts. Any application of any requirements of this Order to other than site/facility management contracts will be communicated separately from this Order.
- (3) The office identified in paragraph 5.d. is responsible for notifying the contracting officer of which contracts are affected. Once notified, the contracting officer is responsible for incorporating the CRD into each affected contract via the laws, regulations, and DOE directives clause of the contract.
- (4) As the laws, regulations, and DOE directives clause states, regardless of the performer of the work, a contractor with the CRD incorporated into its contract is responsible for compliance with the requirements of the CRD. An affected contractor is responsible for flowing down the requirements of this CRD to subcontracts at any tier to the extent necessary to ensure the contractor's compliance with the requirements.

c. Exclusions.

- (1) Activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Executive Order 12344 and set forth in Public Laws 98-525 and 106-65.
- (2) Activities conducted by the Bonneville Power Administration as authorized by Delegation Order No. 00-033.00A.
- (3) Activities conducted by the Office of the Secretary, Chief Information Office, Office of Congressional and Intergovernmental Affairs, Office of Counterintelligence, Departmental Representative to the Defense Nuclear Facilities Safety Board, Office of Economic Impact and Diversity, Energy Information Administration, Office of General

Counsel, Office of Hearings and Appeals, Office of Inspector General, Office of Intelligence, Office of Policy and International Affairs, Office of Public Affairs, and Secretary of Energy Advisory Board.

4. REQUIREMENTS.

- a. General Requirements. All DOE elements must ensure that site ISMSs include an EMS that does the following.
- (1) Provides for the systematic planning, integrated execution, and evaluation of programs for—
    - (a) public health and environmental protection,
    - (b) pollution prevention (P2), and
    - (c) compliance with applicable environmental protection requirements.
  - (2) Includes policies, procedures, and training to identify activities with significant environmental impacts, to manage, control, and mitigate the impacts of these activities, and to assess performance and implement corrective actions where needed.
  - (3) Includes measurable environmental goals, objectives, and targets that are reviewed annually and updated when appropriate.
- b. Integration of an EMS into ISMS. As part of integrating EMSs into site ISMSs, DOE elements must do the following.
- (1) Consider the following for inclusion as applicable:
    - (a) conformity of DOE proposed actions with State Implementation Plans to attain and maintain national ambient air quality standards,
    - (b) implementation of a watershed approach for surface water protection,
    - (c) implementation of a site-wide approach for groundwater protection,
    - (d) protection of other natural resources including biota,
    - (e) protection of site resources from wildland and operational fires, and

- (f) protection of cultural resources.
  - (2) Promote the long-term stewardship of a site's natural and cultural resources throughout its operational, closure, and post-closure life cycle.
  - (3) Reduce or eliminate the generation of waste, the release of pollutants to the environment, and the use of Class I ozone-depleting substances (ODS) through source reduction including segregation and substitution, re-use, recycling, and sustainable development, and by procuring environmentally preferable products and services, pursuant to the DOE P2 and Sustainable Environmental Stewardship Goals found in Attachment 3.
  - (4) 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.
5. RESPONSIBILITIES. All DOE elements, as specified in paragraph 3a of this Order, are responsible for implementing the requirements specified in paragraph 4. Corporate responsibilities for management of environment, safety and health assigned to DOE elements are delineated in Section 9 of DOE M 411.1-1C, *Safety Management Functions, Responsibilities, and Authorities Manual*, dated 5-22-01. Specific responsibilities for implementing this Order are set forth below.
- a. Assistant Secretary for Environment, Safety and Health, in coordination with other DOE elements, must do the following.
    - (1) Develop or revise, as needed, existing DOE environmental protection directives, policies, guidance, requirements, and procedures to—
      - (a) provide guidance to Program Secretarial Offices (PSOs) and field organizations for ensuring site ISMSs provide for EMSs that promote the protection of the environment, efficient compliance with environmental requirements, and enhanced environmental performance in the conduct of DOE operations (guidance must include instruction for integration of EMS self-assessment requirements into ISMS self-assessment protocols); and
      - (b) maximize the use of safe alternatives to, evaluate present and future uses of, and disseminate information regarding successful efforts to phase out ODS.
    - (2) Serve as the Agency Environmental Executive pursuant to Executive Order 13101, "Greening the Government Through Waste Prevention, Recycling and Federal Acquisition," with responsibility for—

- (a) coordination, in conjunction with the Office of Management, Budget and Evaluation, of environmental programs relating to waste prevention, recycling, and acquisition;
  - (b) preparation of annual corporate reports on the Department's progress in implementing Executive Order 13101 and Executive Order 13148, "Greening the Government Through Leadership in Environmental Management" based on input from Departmental elements; and
  - (c) submission of the reports indicated in paragraph 5a(2)(b) above to the Office of Management and Budget, the Council on Environmental Quality, and the Environmental Protection Agency.
- b. Program Secretarial Officers, the Administrator for the National Nuclear Security Administration, Administrators for Power Administrations, and DOE Operations/Field/Site Office Managers must assess implementation of EMSs as a component of the implementation of DOE O 226.1, *Implementation of Department of Energy Oversight Policy*, dated 9-15-05.
- c. Program Secretarial Officers, the Administrator for the National Nuclear Security Administration, and Administrators for the Power Administrations, in addition to the requirements in paragraph 5b, must do the following.
- (1) Ensure that by December 31, 2005, all sites under their purview have implemented the management system requirements of this Order.
  - (2) 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 O 226.1.
  - (3) Ensure sites under their purview include site-specific goals in their ISMS that contribute to the accomplishment of DOE P2 and Sustainable Environmental Stewardship Goals found in Attachment 3.
  - (4) Ensure sites under their purview develop and implement cost-effective P2 programs that use life-cycle assessment concepts and practices in determining program return-on-investment (ROI).
  - (5) Evaluate on an annual basis P2 nominations from sites under their purview, select "best in class" nominees, and transmit the nominating information to the Office of Environment, Safety and Health for submittal to the White House's "Closing the Circle Awards" program.

- (6) Ensure sites under their purview monitor progress toward meeting the requirements of paragraph 4b(3) of this Order, and make such information available annually to the Office of Environment, Safety and Health.

d. DOE Operations/Field/Site Office Managers, in addition to the requirements in paragraph 5b and in coordination with their reporting sites and PSOs, must do the following.

- (1) Report by December 31, 2005, to the Cognizant Program Secretarial Officer the status regarding whether the EMS requirements of DOE O 450.1 have been integrated into ISMSs by site contractors.
- (2) Ensure contractors with approved ISMS descriptions update the ISMS descriptions, as necessary, to include the EMS requirements of this Order.
- (3) Obtain, as appropriate, local community advice relevant to aspects of Executive Order 13101; Executive Order 13221, "Energy Efficiency Standby Power Devices"; Executive Order 13123, "Greening the Government Through Efficient Energy Management;" Executive Order 13148; and Executive Order 13149, "Greening the Government Through Federal Fleet and Transportation Efficiency," through new or existing outreach programs.
- (4) Incorporate, where appropriate, environmentally and economically beneficial landscape practices into all new landscaping programs, policies, and practices for facilities under their purview, in furtherance of compliance with Executive Order 13148.
- (5) Where appropriate, ensure implementation of centralized procurement and distribution programs (e.g., pharmacy) for purchasing, tracking, distributing, and managing materials with toxic or hazardous content at facilities under their purview.
- (6) Conduct operational assessments, such as pollution prevention opportunity assessments, of site operations to identify opportunities for source reduction including material segregation and substitution, recycle/reuse, or other P2 projects. Based on the results of these assessments, implement cost-effective P2 projects, using life-cycle assessment concepts and practices in determining ROI.
- (7) Ensure site annual budgetary processes include the funding and resources needed to implement this Order, including P2 program implementation and monitoring.

- (8) Notify the Director, Office of Strategic Materials, Office of Legacy Management as to the type and quantity of ODS transferred to the Department of Defense (DoD) ODS Reserve.
- (9) Monitor progress toward meeting the requirements of paragraph 4b(3) of this Order, and make such information available annually to the Office of Environment, Safety and Health (ES&H).
- (10) Develop and implement a program and procedures to maximize the use of safe alternatives to ODS whereby—
  - (a) procurement of Class I ODS for all nonexcepted uses is discontinued by December 31, 2010, consistent with Executive Order 13148, and
  - (b) coordination is conducted within DOE and with DoD, as appropriate, before disposal of ODS removed or reclaimed from equipment (including disposal as part of a contract, trade, or donation), and for situations in which the recovered ODS is a critical requirement for DoD missions, the DOE facility transfers the ODS to DoD.
- (11) Consider P2 in the specification and acquisition of departmental supplies to cost effectively maximize procurement of recycled content and biobased content materials, and other environmentally preferable products.
- (12) Coordinate all acquisitions with the Department's "Green Acquisition Advocates" established pursuant to Acquisition Letter AL-2002-05, dated 07/10/02.
- (13) Comply with the requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA or Title III of Superfund Amendments and Reauthorization Act of 1986), 42 U.S.C. 11001, and the Pollution Prevention Act of 1990, 42 U.S.C. 13101, et seq.
- (14) Conduct environmental monitoring, as appropriate, to support the site's ISMS, to detect, characterize, and respond to releases from DOE activities; assess impacts; estimate dispersal patterns in the environment; characterize the pathways of exposure to members of the public; characterize the exposures and doses to individuals, to the population; and to evaluate the potential impacts to the biota in the vicinity of the DOE activity.

- (15) Ensure the analytical work supporting environmental monitoring is implemented using—
  - (a) a consistent system for collecting, assessing, and documenting environmental data of known and documented quality;
  - (b) a validated and consistent approach for sampling and analysis of radionuclide samples to ensure laboratory data meets program-specific needs and requirements within the framework of a performance-based approach for analytical laboratory work; and
  - (c) an integrated sampling approach to avoid duplicative data collection.
  
- (16) Ensure contractor ES&H self-assessment programs are established within the framework of DOE O 226.1 and continue to be effective.
  
- (17) Ensure, through the annual ISM review process [established pursuant to DEAR 970.5223-1 (e)] that contractor ES&H performance objectives, performance measures, and commitments include appropriate environmental elements based on the environmental risks, impacts of activities at the site and established Departmental P2 and Sustainable Environmental Stewardship Goals found in Attachment 3.
  
- (18) Determine which contracts are affected by the requirements of this Order and ensure that the CRD is incorporated into only those contracts for which it is appropriate.
  
- e. Office of Independent Oversight must evaluate the effectiveness of DOE Headquarters and field organization implementation of the requirements of this Order.
  
- f. Office of Human Capital Management, in coordination with other DOE elements, must develop or revise existing DOE directives, policies, and documents to accomplish the following.
  - (1) Include, as appropriate, training on environmental requirements and EMSs in the standard senior-level management training for program managers, contracting personnel, procurement and acquisition personnel, facility managers, and other personnel.
  - (2) Include, as appropriate, the successful implementation of EMSs in the position descriptions and performance evaluations for Senior Executive Service and career Headquarters managers and operations/field/site office managers.



- g. Office of Management, in coordination with other DOE elements, must develop or revise existing DOE directives, policies, and documents to accomplish the following.
    - (1) Ensure DOE's personal property management policies and procedures preclude the Department's disposal of ODS without prior coordination with DoD.
    - (2) Ensure procurement policies and procedures encourage the Department's acquisition of recycled-content and biobased-content materials, and other environmentally preferable products and services.
    - (3) Ensure incorporation of planning and management requirements for historic property and environmental management pursuant to Section 3 (b)(vi) of Executive Order 13327, "Federal Real Property Asset Management."
  - h. Office of the Chief Financial Officer, in coordination with other DOE elements, must develop or revise existing DOE directives, policies, and documents to accomplish the following
    - (1) Reference DOE P2 and Sustainable Environmental Stewardship Goals in the Department's strategic and annual performance plans required by the Government Performance and Results Act of 1993.
    - (2) Ensure that requests for funding to implement the requirements of this Order, made by PSOs are considered in the formulation of DOE's annual budget request.
  - i. Director, Office of Legacy Management, must, in addition to their PSO responsibilities in paragraphs 5b and 5c, coordinate with other DOE elements and DoD to dispose of critical Class I ODS.
6. CONTACT. For assistance contact the Office of Environmental Policy and Guidance at 202-586-7870.

BY ORDER OF THE SECRETARY OF ENERGY:



CLAY SELL  
Deputy Secretary

### **DOE ORGANIZATIONS TO WHICH DOE O 450.1 IS APPLICABLE**

DOE O 450.1 is applicable to the following organizations and all sites under their purview:

| Office of the Chief Financial Officer  
Office of Civilian Radioactive Waste Management  
Office of Energy Efficiency and Renewable Energy  
Office of Environment, Safety and Health  
Office of Environmental Management  
Office of Fossil Energy  
| Office of Human Capital Management  
| Office of Management  
National Nuclear Security Administration  
Office of Nuclear Energy, Science and Technology  
| Office of Security and Safety Performance Assurance  
Office of Science  
| Office of Legacy Management  
Office of Energy Assurance  
Southeastern Power Administration  
Southwestern Power Administration  
Western Area Power Administration

**CONTRACTOR REQUIREMENTS DOCUMENT**  
**DOE O 450.1, *Environmental Protection Program***

Regardless of the performer of the work, contractors with this Contractor Requirements Document (CRD) incorporated into their contracts are responsible for (1) compliance with the requirements of the CRD and (2) flowing down the requirements of the CRD to subcontracts at any tier to the extent necessary to ensure the contractors' compliance with the requirements.

This CRD requires contractors to integrate numerous environmentally related requirements already placed on it by existing statutes, regulations, and policies through the use of an Environmental Management System (EMS) incorporated into an Integrated Safety Management System (ISMS). EMS requirements must be addressed in the contractor's ISMS which must be submitted for DOE review and approval under DEAR 970.5223-1, Integration of environment, safety, and health into work planning and execution.

Contractors must:

1. General Requirements. Ensure their integrated safety management systems (ISMSs) include environmental management systems (EMSs) that do the following.
  - (a) Provide for the systematic planning, integrated execution, and evaluation of programs for—
    - (1) public health and environmental protection,
    - (2) pollution prevention (P2), and
    - (3) compliance with applicable environmental protection requirements.
  - (b) Include policies, procedures, and training to identify activities with significant environmental impacts, to manage, control, and mitigate the impacts of these activities, and to assess performance and implement corrective actions where needed.
  - (c) Include measurable environmental goals, objectives, and targets that are reviewed annually and updated when appropriate.
2. Integration of an EMS into ISMS. As part of integrating EMSs into their ISMSs, do the following.
  - (a) Consider the following for inclusion as applicable:
    - (1) conformity of DOE proposed actions with State Implementation Plans to attain and maintain national ambient air quality standards,

- (2) implementation of a watershed approach for surface water protection,
    - (3) implementation of a site-wide approach for groundwater protection,
    - (4) protection of other natural resources including biota,
    - (5) protection of site resources from wildland and operational fires, and
    - (6) protection of cultural resources.
  - (b) promote the long-term stewardship of a site's natural and cultural resources throughout its operational, closure, and post-closure life cycle;
  - (c) reduce or eliminate the generation of waste, the release of pollutants to the environment, and the use of Class I ozone-depleting substances (ODS) through source reduction including segregation and substitution, re-use, recycling, and sustainable development, and by procuring environmentally preferable products and services, pursuant to the DOE P2 and Sustainable Environmental Stewardship Goals found in Attachment 3; and
  - (d) 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.
3. Update approved ISMS descriptions as necessary to include EMS requirements of this CRD. Report to DOE operations/field/site office managers within 12 months after insertion of this CRD into the contract on the status of implementation of appropriate management system elements of this CRD.
  4. Assist the Department in meeting its requirements and in its efforts to obtain, as appropriate, local community advice relevant to aspects of Executive Order 13101, "Greening the Government Through Waste Prevention, Recycling and Federal Acquisition;" Executive Order 13221, "Energy Efficiency Standby Power Devices;" Executive Order 13123, "Greening the Government Through Efficient Energy Management;" Executive Order 13148, "Greening the Government Through Leadership in Environmental Management;" and Executive Order 13149, "Greening the Government Through Federal Fleet and Transportation Efficiency."
  5. Assist the Department in meeting its requirements under Executive Order 13148 by ensuring, where appropriate, implementation of centralized procurement and distribution programs (e.g., pharmacy) for purchasing, tracking, distributing, and managing materials with toxic or hazardous content at facilities under their purview.
  6. Incorporate, where appropriate, environmentally and economically beneficial landscape practices into all new landscaping programs, policies, and practices for facilities. [See

requirements placed on Federal agencies in Executive Order 13148, “Greening the Government Through Leadership in Environmental Management.”]

7. Monitor progress toward meeting the requirements of paragraph 2c above and make such information available annually to the DOE operations/field/site office.
8. Consider P2 in the specification and acquisition of supplies to cost effectively maximize procurement of recycled-content and biobased-content materials, and other environmentally preferable products and services. As appropriate, all acquisitions must be coordinated with the DOE operations/field/site office “Green Acquisition Advocate.” [See Acquisition Letter AL-2002-05, dated 07/10/02]
9. Conduct operational assessments, such as pollution prevention opportunity assessments, of site operations to identify opportunities for source reduction including material segregation and substitution, recycle/reuse, or other P2 projects. Based on the results of these assessments, implement cost-effective P2 projects, using life-cycle assessment concepts and practices in determining return-on-investment.
10. Conduct environmental monitoring, as appropriate, to support the site’s ISMSs, to detect and characterize releases from DOE activities; assess impacts; estimate the dispersal patterns in the environment; characterize the pathways of exposure to members of the public; and characterize the exposures and doses to individuals, and to the population; and to evaluate the potential impacts to the biota in the vicinity of the DOE activity.
11. Ensure the analytical work supporting environmental monitoring is implemented using—
  - (a) a consistent system for collecting, assessing, and documenting environmental data of known and documented quality;
  - (b) a validated and consistent approach for sampling and analysis of radionuclide samples to ensure laboratory data meets program-specific needs and requirements within the framework of a performance-based approach for analytical laboratory work; and
  - (c) an integrated sampling approach to avoid duplicative data collection.
12. Develop and implement a program and procedures to maximize the use of safe alternatives to ODS whereby—
  - (a) the procurement of Class I ODS for all nonexcepted uses is discontinued by December 31, 2010 [See Executive Order 13148], and
  - (b) disposal of ODS removed or reclaimed from equipment (including disposal as part of a contract, trade, or donation) is coordinated within DOE and with DoD,

and for situations in which the recovered ODS is a critical requirement for DoD missions, the facility transfers the ODS to DoD.

13. Assist the Department with its requirement under Executive Order 13148 by meeting reporting and planning requirements under the Emergency Planning and Community Right-to-Know Act (EPCRA or Title III of Superfund Amendments and Reauthorization Act of 1986), 42 U.S.C. 11001, and the Pollution Prevention Act of 1990, 42 U.S.C. 13101.
14. Assist the Department with its requirement under Executive Order 13327, “Federal Real Property Asset Management”, Section 3(b)(vi), by ensuring incorporation of planning and management requirements for historic property and environmental management.

## **POLLUTION PREVENTION AND SUSTAINABLE ENVIRONMENTAL STEWARDSHIP GOALS**

### 1. PURPOSE.

- a. To establish Department of Energy (DOE) goals that advance the pollution prevention and environmental management system provisions of DOE O 450.1, *Environmental Protection Program*, and Executive Orders 13148, *Greening the Government Through Leadership in Environmental Management*, and 13101, *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*.
- b. To supersede the pollution prevention leadership goals expiring in 2005.
- c. To integrate pollution prevention and sustainable environmental stewardship into DOE operations as a cost-effective business practice that will:
  - (1) reduce environmental hazards,
  - (2) protect environmental resources,
  - (3) avoid pollution control costs, and
  - (4) improve operational capability and mission sustainability.

### 2. GOALS, OBJECTIVES AND STRATEGIES.

The Department herein establishes five performance-based P2 and Sustainable Environmental Stewardship goals that are to be achieved by DOE sites through the integration of P2 into environmental management systems pursuant to DOE 450.1 and its Contractor Requirements Document (CRD). The accompanying strategies for achieving the P2 and Sustainable Environmental Stewardship goals are to be considered for inclusion in sites' environmental management systems, as applicable or otherwise appropriate. DOE sites are also to consider mission performance and life-cycle costs when selecting specific strategies for achieving the P2 and Sustainable Environmental Stewardship goals.

### 3. PERFORMANCE MEASURES.

Measure progress towards meeting the requirements of paragraph 4b(3) of this Order and section 2c of the CRD, and make such information available annually to the Agency Environmental Executive pursuant to sections 5c(6) and 5d(9) of this Order and section 7 of its CRD.

<b>GOAL</b>	<b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH WASTE PREVENTION</b>
OBJECTIVE	Reduce environmental hazards, protect environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational capability by eliminating or minimizing the generation of wastes that would otherwise require storage, treatment, disposal, and long-term monitoring and surveillance (i.e., future environmental legacies).
STRATEGIES	<ul style="list-style-type: none"> <li>• Establish operational assessments (OAs), such as pollution prevention opportunity assessments, of waste generating activities, as objectives and measurable targets in site environmental management systems (EMSs).</li> <li>• Based on OAs, establish objectives and measurable targets in site EMSs for the prevention, reduction, reuse and recycling of waste streams generated at sites.</li> <li>• Identify resources needed to implement this pollution prevention goal and site-specific objectives and targets in site annual budgetary processes.</li> <li>• Participate in voluntary environmental partnership programs (e.g., National Waste Minimization Program, Waste Wise, National Environmental Performance Track, etc.) where there is a programmatic benefit from doing so (community outreach, technology transfer, regulatory incentives, etc.).</li> </ul>



<b>GOAL</b>	<b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH <i>REDUCTION OF ENVIRONMENTAL RELEASES</i></b>
<b>OBJECTIVE</b>	Reduce environmental hazards, protect environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational capability by eliminating or minimizing the use of toxic chemicals and associated releases of pollutants to the environment that would otherwise require control, treatment, monitoring, and reporting.
<b>STRATEGIES</b>	<ul style="list-style-type: none"> <li>• Establish operational assessments (OAs), such as pollution prevention opportunity assessments, of activities using toxic chemicals, as objectives and measurable targets in site environmental management systems (EMSs).</li> <li>• Based on OAs, establish objectives and measurable targets in site EMSs for minimizing the use of toxic chemicals, and reducing associated releases of pollutants to the environment (air, water, soil, biota).</li> <li>• Identify resources needed to implement this pollution prevention goal and site-specific objectives and targets in site annual budgetary processes.</li> <li>• Participate in voluntary environmental partnership programs (e.g., Adopt Your Watershed, Climate Leaders, Green Engineering, National Environmental Performance Track, etc.) where there is a programmatic benefit from doing so (community outreach, technology transfer, regulatory incentives, etc.).</li> </ul>

<p><b>GOAL</b></p>	<p><b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH <i>ENVIRONMENTALLY PREFERABLE PURCHASING</i></b></p>
<p><b>OBJECTIVE</b></p>	<p>Reduce environmental hazards, conserve environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational capability through the procurement of recycled-content, biobased-content and other environmentally preferable products thereby minimizing the economic and environmental impacts of managing toxic by-products and hazardous wastes generated in the conduct of site activities.</p>
<p><b>STRATEGIES</b></p>	<ul style="list-style-type: none"> <li>• Establish environmentally preferable purchasing objectives and measurable targets in site environmental management systems (EMSs).</li> <li>• Green Purchasing             <ul style="list-style-type: none"> <li>– Specify environmentally preferable products* in the acquisition of site supplies and services.</li> <li>– Procure the following environmentally preferable products, when available, affordable and effective:                 <ul style="list-style-type: none"> <li>• Environmental Protection Agency-designated recycled-content products</li> <li>• Department of Agriculture-designated biobased-content products</li> <li>• EPA Significant New Alternatives Policy (SNAP) Program acceptable substitutes for ozone-depleting substances</li> <li>• cleaning products certified by GreenSeal, a U.S. standard setting and environmental labeling organization (<a href="http://www.greenseal.org">www.greenseal.org</a>) and/or EPA-designated green cleaning products (<a href="http://www.epa.gov/opptintr/epp/cleaners/select">www.epa.gov/opptintr/epp/cleaners/select</a>)</li> </ul> </li> </ul> </li> </ul> <p>* Products that have a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose, including materials that result in no waste, less waste or less toxic waste across the entire life-cycle.</p> <ul style="list-style-type: none"> <li>• Federal Electronics Challenge             <ul style="list-style-type: none"> <li>– Specify a preference for environmentally preferable electronics qualified through the Electronic Procurement Environmental Assessment Tool (EPEAT) or its successor, in the solicitation and acquisition of desktop computers, notebooks, and monitors.</li> <li>– Utilize the EPEAT network to identify specific models of desktop</li> </ul> </li> </ul>

Vertical line denotes change.

<p><b>GOAL</b></p>	<p><b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH <i>ENVIRONMENTALLY PREFERABLE PURCHASING</i></b></p>
	<p>computers, notebooks and monitors certified by manufacturers and vendors as environmentally preferable and listed according to three tiers of ascending environmental performance and order of preference—bronze, silver, and gold (<a href="http://www.epeat.net">www.epeat.net</a>).</p> <ul style="list-style-type: none"> <li>• Operate a vehicle fleet that is the most environmentally preferable possible while meeting performance, cost-effectiveness and regulatory demands. <ul style="list-style-type: none"> <li>– Utilize API-rated re-refined oil, retread truck tires, antifreeze/engine coolant recyclers, water recycling/reclamation vehicle wash facilities, and biobased lubricants, fuels and degreasers/cleaners.</li> <li>– Utilize alternative fuel (clean air) vehicles.</li> </ul> </li> <li>• Identify resources needed to implement this pollution prevention goal and site-specific objectives and targets in site annual budgetary processes.</li> <li>• Participate in voluntary environmental partnership programs (e.g., FEC “Partner”) where there is a programmatic benefit from doing so (community outreach, technology transfer, regulatory incentives, etc.).</li> </ul>

<p><b>GOAL</b></p>	<p><b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH INCORPORATION OF ENVIRONMENTAL STEWARDSHIP IN PROGRAM PLANNING AND OPERATIONAL DESIGN</b></p>
<p><b>OBJECTIVE</b></p>	<p>Reduce environmental hazards, conserve environmental and energy resources, minimize life-cycle cost and liability of DOE programs, and maximize operational capability by incorporating sustainable environmental stewardship in the commissioning of site operations and facilities.</p>
<p><b>STRATEGIES</b></p>	<ul style="list-style-type: none"> <li>• Establish sustainable environmental stewardship objectives and measurable targets in site environmental management systems (EMSs).</li> <li>• Green Building             <ul style="list-style-type: none"> <li>– Apply sustainable building design criteria when planning and constructing new facilities or modifying existing facilities to optimize life-cycle costs, reduce pollution, minimize energy consumption, conserve water, and enhance indoor air quality, worker safety and productivity.</li> <li>– Utilize resources available through the following Federal and DOE Energy Management Programs (FEMP/DEMP) to assist in the development of green buildings that are life-cycle cost-effective, and meet mission and functional performance needs:                 <ul style="list-style-type: none"> <li>○ FEMP New Building Design Project Assistance</li> <li>○ FEMP New Construction Project Assistance</li> <li>○ DEMP Retrofit Project Assistance</li> <li>○ DEMP Energy Management Model Program Assistance</li> </ul> </li> <li>– Utilize the National Institute of Standards and Technology’s Building for Environmental and Economic Sustainability (tool for selecting cost effective, environmentally preferable building construction products) (<a href="http://www.bfrl.nist.gov/oae/software/bees.html">www.bfrl.nist.gov/oae/software/bees.html</a>).</li> <li>– Include sustainable design and development criteria in built-to-lease solicitations.</li> <li>– Include a preference for buildings meeting sustainability provisions of the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED™) Green Building Rating System, the Green Buildings Initiative’s Green Globes assessment and rating</li> </ul> </li> </ul>

Vertical line denotes change.

<p><b>GOAL</b></p>	<p><b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH INCORPORATION OF ENVIRONMENTAL STEWARDSHIP IN PROGRAM PLANNING AND OPERATIONAL DESIGN</b></p>
	<p>tool, the Whole Building Design Guide, or the American Society for Testing and Materials' Standard Guide for the General Principles of Sustainability Relative to Buildings (ASTM E2432) in solicitations and selection criteria for acquiring leased buildings.</p> <ul style="list-style-type: none"> <li>– Retire inefficient building equipment on an accelerated basis where replacement results in lower life-cycle costs (reduced energy and water consumption, and waste generation).</li> <li>• Green Chemistry             <ul style="list-style-type: none"> <li>– Participate in the EPA/DOE sponsored Laboratories for the 21st Century (Labs21) voluntary program dedicated to improving the environmental performance and stewardship of U.S. laboratories through the design of chemical products and analytical processes that reduce or eliminate the use and/or generation of hazardous substances.</li> <li>– Establish operational assessments (OAs), such as pollution prevention opportunity assessments, of laboratory activities, as objectives and measurable targets in site environmental management systems (EMSs).</li> <li>– Based on OAs, establish objectives and measurable targets in site EMSs for:                 <ul style="list-style-type: none"> <li>○ development and utilization of more environmentally benign solvents and solvent-less systems that reduce or eliminate the use of hazardous solvents;</li> <li>○ design of analytical products and processes that reduce or eliminate the use and/or generation of hazardous substances;</li> <li>○ application of Labs21 Environmental Performance Criteria in the operation of laboratory facilities.</li> </ul> </li> </ul> </li> <li>• Green Landscaping             <ul style="list-style-type: none"> <li>– Implement cost-effective, sustainable landscape design and management practices to reduce adverse impact to the natural environment and native ecological systems.</li> <li>– Utilize EPA GreenScapes environmentally beneficial landscaping</li> </ul> </li> </ul>

<b>GOAL</b>	<b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH INCORPORATION OF ENVIRONMENTAL STEWARDSHIP IN PROGRAM PLANNING AND OPERATIONAL DESIGN</b>
	<p>methods to reduce waste and energy usage, conserve water, and reduce greenhouse gas emissions. (<a href="http://www.epa.gov/greenskapes">www.epa.gov/greenskapes</a>).</p> <ul style="list-style-type: none"><li>• Identify resources needed to implement this sustainable environmental stewardship goal and site-specific objectives and targets in site annual budgetary processes.</li></ul>

<p><b>GOAL</b></p>	<p><b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH <i>POST-CONSUMER MATERIAL RECYCLING</i></b></p>
<p><b>OBJECTIVE</b></p>	<p>Protect environmental resources, minimize life-cycle cost of DOE programs, and maximize operational capability by diverting materials suitable for reuse and recycling from landfills thereby minimizing the economic and environmental impacts of waste disposal and long-term monitoring and surveillance.</p>
<p><b>STRATEGIES</b></p>	<ul style="list-style-type: none"> <li>• Establish post-consumer material recycling objectives and measurable targets in site environmental management systems (EMSs).</li> <li>• Recycle office paper, cardboard, aluminum, plastics, and glass.</li> <li>• Recycle spent oil, hydraulic fluid, lubricants, and solvents.</li> <li>• Recycle construction and demolition debris.             <ul style="list-style-type: none"> <li>– Reuse demolition rubble (concrete, brick, and other masonry) on-site by crushing the material to stone for grading, laying utilities, and building roads, driveways and parking areas. Pulverize and reuse gravel asphalt and sub-base.</li> <li>– Utilize the General Services Administration Construction Waste Management Database to identify recyclers of 15 commonly-recycled construction and demolition debris such as concrete, asphalt, masonry, metal, plastic, and wood (<a href="http://cwm.wbdg.org">cwm.wbdg.org</a>).</li> </ul> </li> <li>• Recycle empty, non-refillable, high-density polyethylene (HDPE) plastic pesticide product containers.             <ul style="list-style-type: none"> <li>– Utilize the Ag Container Recycling Council (ACRC), a non-profit organization that collects and recycles professional end-users' containers of EPA registered pesticide products to include agricultural, turf, forestry, vegetative management, specialty pest control, adjuvants, crop oils, and surfactants (<a href="http://www.acrecycle.org">www.acrecycle.org</a>).</li> </ul> </li> <li>• Collect spent toner cartridges and batteries for remanufacturing.</li> <li>• Federal Electronics Challenge - Recycle computers, monitors and peripheral information technology electronics.             <ul style="list-style-type: none"> <li>– Extend the useful lifespan of computers through software upgrades; enable power management capabilities, and</li> <li>– Utilize the recycling services available through the following sources as an environmentally compliant means for disposition of end-of-life electronics:</li> </ul> </li> </ul>

<p><b>GOAL</b></p>	<p><b>PROTECT THE ENVIRONMENT AND ENHANCE MISSION ACCOMPLISHMENT THROUGH <i>POST-CONSUMER MATERIAL RECYCLING</i></b></p>
	<ul style="list-style-type: none"> <li>○ Environmental Protection Agency Recycling Electronics and Asset Disposition (READ) Services Government Wide Acquisition Contract (<a href="http://www.epa.gov/oam/read/index.htm">www.epa.gov/oam/read/index.htm</a>), or</li> <li>○ Department of Justice UNICOR Electronic Recycling Program (<a href="http://www.unicor.gov/recycling">www.unicor.gov/recycling</a>), or</li> <li>○ General Services Administration Federal Supply Service Multiple Award Schedule 899, Reclamation, Recycling, and Disposal Services, or</li> <li>○ Recyclers that are members, in good standing, of one or more of the following professional associations:               <ul style="list-style-type: none"> <li>· International Association of Electronic Recyclers</li> <li>· Institute of Scrap Recycling Industries</li> <li>· National Recycling Coalition</li> <li>· Electronic Industries Alliance</li> </ul> </li> <li>• Recycle surplus commodities and by-products.               <ul style="list-style-type: none"> <li>– Utilize material exchange programs such as Recycler’s World Network (<a href="http://www.recycle.net">www.recycle.net</a>) and the DOE Materials Exchange Network (<a href="http://wastenot.er.doe.gov">wastenot.er.doe.gov</a>) to transfer unwanted materials to alternate users.</li> </ul> </li> <li>• Identify resources needed to implement this pollution prevention goal and site-specific objectives and targets in site annual budgetary processes.</li> </ul>



Approved: 1-15-03  
Chg 1: 1-24-05

**SUBJECT: ENVIRONMENTAL PROTECTION PROGRAM**

---

1. PURPOSE. To transmit revised pages to DOE O 450.1, *Environmental Protection Program*, dated 1-15-03.
2. EXPLANATION OF CHANGES. To add requirements from Executive Order 13327 “Federal Real Property Asset Management,” and incorporates responsibilities for the Office of Legacy Management.
3. LOCATION OF CHANGES.

<u>Pages</u>	<u>Paragraphs</u>
1	3a(1)
3	3c(3)
4	5
6	5d(8)
7	5d(13)
9	5f(7)
9	5g
Att 1, Page 1	
Att 2, Page 4	14

After filing the attached pages, this transmittal may be discarded.

BY ORDER OF THE SECRETARY OF ENERGY:



**KYLE E. McSLARROW**  
Deputy Secretary

Approved: 1-15-03  
Chg 1: 1-24-05  
Chg 2: 12-7-05

SUBJECT: ENVIRONMENTAL PROTECTION PROGRAM

---

1. PURPOSE. To transmit revised pages to DOE O 450.1, *Environmental Protection Program*, dated 1-15-03.
2. EXPLANATION OF CHANGES. To add new pollution prevention and sustainable environmental stewardship (P2) goals as attachment 3. Also, administrative changes have been made throughout the Order to correspondence with the new P2 goals. Additionally, the responsibilities of the former Office of Management, Budget and Evaluation have been separated into the three newly established organizations derived there from.
3. LOCATION OF CHANGES.

<u>Pages</u>	<u>Paragraphs</u>
4	4b(3)
5	5b, 5c(2, 3)
6	5c(6), 5d(6)
7	5d(9, 11, 12)
8	5d(16, 17), 5e, 5f
9	5g, 5g(2), 5h, and 5h(1)

Att 1, Page 1

Att 2, Page 2      2c

Att 2, Page 3      7, 8, 9

Att 3

After filing the attached pages, this transmittal may be discarded.

BY ORDER OF THE SECRETARY OF ENERGY:



CLAY SELL  
Deputy Secretary