

SUBJECT: ENVIRONMENTAL PROTECTION PROGRAM

1. **PURPOSE.** 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 requirements. The objectives are—
 - a. To implement sustainable practices for enhancing environmental, energy, and transportation management performance, as stipulated in section 3(a) of Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, through environmental management systems that are part of Integrated Safety Management (ISM) systems established pursuant to DOE P 450.4, *Safety Management System Policy*, dated 10-15-96.
 - b. To achieve the DOE Sustainable Environmental Stewardship goals found in the Attachment to this Order.

2. **CANCELLATION.** DOE O 450.1, *Environmental Protection Program*, dated 1-15-03. Cancellation of a directive does not, by itself, modify or otherwise affect any contractual obligation to comply with the Order. Contractor requirement documents (CRDs) that have been incorporated into or attached to a contract remain in effect until the contract is modified to either eliminate requirements that are no longer applicable or substitute a new set of requirements.

3. **APPLICABILITY.**
 - a. **All Departmental Elements.** Except as noted in paragraph 3c, this Order applies to all Departmental elements that are responsible for the management and operation of the Department's facilities and activities, including elements of the National Nuclear Security Administration (NNSA), the Western Area Power Administration, and the Southwestern Power Administration, and including those created after the Order is issued. (Go to www.directives.doe.gov/pdfs/reftools/org-list.pdf for the current listing of Departmental elements.)
 - (1) The Administrator of NNSA will assure that NNSA employees comply with their respective responsibilities under this Order. Nothing in this Order will be construed to interfere with the NNSA Administrator's authority under section 3212(d) of Public Law (P.L.) 106-65 to establish Administration specific policies, unless disapproved by the Secretary.

- (2) Where ISM systems are not applicable, Departmental elements must ensure the implementation of environmental management systems. These Departmental elements must interpret all references to ISM within this Order to mean environmental management systems.
- b. DOE Contractors. The Contractor Requirements Document (CRD), Attachment 1, sets forth requirements of this Order that will apply to management and operation, facility management, or other contracts under which the contractor manages Government facilities or fleets.
- (1) This CRD must be included, as appropriate, in all contracts that include DEAR 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution, and 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 natural resources.
 - (2) The office identified in paragraph 5d 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.
 - (3) Pursuant to the DEAR clause 970.5204-2, Laws, Regulations and DOE Directives, 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. As such, the 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 E.O. 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 Economic Impact and Diversity, Energy Information Administration, Office of the General Counsel, Office of Hearings and Appeals, Office of

Inspector General, Office of Intelligence and Counterintelligence, Office of Policy and International Affairs, and Office of Public Affairs.

4. REQUIREMENTS.

- a. Implementation of Environmental Management System. Each DOE site must develop and implement an environmental management system. This environmental management system must be integrated into the site's ISM system developed pursuant to DOE P 450.4, *Safety Management System Policy*, dated 10-15-96, and DOE M 450.4-1, *Integrated Safety Management System Manual*, dated 11-1-06.
- b. Elements of Environmental Management System. Each environmental management system must—
 - (1) Reflect the environmental management system elements and framework found in the International Organization for Standardization's (ISO) 14001:2004 (E) International Standard or equivalent, including policies, procedures and training to identify operations and activities with significant environmental impacts; to manage, control, and mitigate the impacts of these operations and activities; and to assess performance, implement corrective actions where needed, and ensure continual improvement.
 - (2) Include environmental, energy, and transportation objectives and measurable targets that are reviewed annually, updated as appropriate, and contribute to achieving the DOE Sustainable Environmental Stewardship goals found in Attachment 2 of this Order, and the energy and transportation goals in DOE O 430.2B, *Departmental Energy, Renewable Energy and Transportation Management*, dated 2-27-08.
 - (3) Address tenant or concessionaire activities wherever such activities affect DOE's environmental, energy, and transportation management.
 - (4) Contain the elements of an Environmental Compliance Management Plan pursuant to the Council on Environmental Quality's *Instructions for Implementing E.O. 13423*, page 9, section B, including—
 - (a) A clear statement by senior leadership committing to achieve and maintain compliance with applicable environmental protection requirements.
 - (b) Clearly articulated roles and responsibilities related to environmental performance at all appropriate levels to ensure accountability for less than desired environmental performance.

- (c) An environmental compliance audit and review program that identifies compliance deficiencies and root causes of non-compliance.
 - (d) Integration of compliance management information and resource allocation procedures to ensure that audit findings and root causes of non-compliance are tracked and addressed, including allocation of funding.
- c. Scope of the Environmental Management System. The environmental management system must encompass the environmental aspects of site operations and activities, including environmental aspects of energy and transportation functions, and it must promote the long-term stewardship of a site's natural and cultural resources throughout its design and construction, operation, closure, and post-closure life cycle. The environmental management system must address the following—
 - (1) Sustainable practices for enhancing environmental, energy, and transportation management performance, as stipulated in Section 3(a) of E.O. 13423 and its Implementing Instructions.
 - (2) Protection of public health and the environment including, but not limited to—
 - (a) Conformity 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) Assessment of the hazard of engineered nanomaterials and implementation of appropriate environment, safety and health controls in accordance with DOE P 456.1, *Secretarial Policy Statement on Nanoscale Safety*, dated 9-15-05.
 - (3) Protection of site resources from wildland fires consistent with site wildland and operation fire management plans that consider the Federal Wildland Fire Management Policy recommendations. (See DOE G 450-1.4, *Implementation Guide, Wildland Fire Management Program, for Use with DOE O 450.1, Environmental Protection Program*, dated 2-11-04).

- (4) Identification and protection of cultural resources.
- (5) The conduct of environmental and effluent monitoring, as appropriate, to characterize pre-operational conditions and to detect, characterize, and respond to releases from site operations and 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 and the population; and evaluate the potential impacts to the biota in the vicinity of the release. Where appropriate, use an integrated monitoring system and sampling approach to avoid duplicative data collection.
- (6) Assurance that analytical work for environmental and effluent monitoring supports data quality objectives, using a documented approach for collecting, assessing, and reporting environmental data.
- (7) The conduct of appropriate operational assessments, such as pollution prevention opportunity assessments, of site operations and activities to identify opportunities to implement sustainable practices as part of achieving DOE's Sustainable Environmental Stewardship goals found in Attachment 2 of DOE O 450.1A.

d. Validation of the Environmental Management System.

- (1) An environmental management system shall be considered fully implemented when—
 - (a) The environmental management system has been the subject of a formal audit by a qualified party outside the control or scope of the environmental management system.
 - (b) The appropriate contractor senior management and DOE field office management have recognized and addressed the findings of the audit.
 - (c) The appropriate senior manager accountable for implementation of the environmental management system and the cognizant Field Office Manager have declared conformance of the environmental management system to the requirements of paragraph 4b of this Order.
- (2) Environmental management systems, including those already declared under the previous requirements of canceled DOE O 450.1 *Environmental Protection Program*, dated 1-15-03, must meet the new requirements for being “fully implemented” by June 30, 2009.

- (3) To remain fully implemented, at least every three years: (a) the environmental management system must be audited by a qualified party outside the control or scope of the environmental management system, and (b) the conformance declaration 4d(1)(c) is renewed, as appropriate.
- e. DOE ISM Systems. As part of integrating environmental management systems into DOE ISM systems pursuant to DOE M 450.4-1, Program Secretarial Officers, Administrators, and Field Office Managers shall incorporate appropriate performance objectives, measures and commitments to support the following at site(s) under their purview—
- (1) Compliance with applicable environmental protection requirements.
 - (2) Achievement of the DOE Sustainable Environmental Stewardship goals found in Attachment 2 of this Order and the energy and transportation goals in DOE O 430.2B.
 - (3) Implementation and oversight of the environmental management system.

5. RESPONSIBILITIES.

- a. Assistant Secretary for Energy Efficiency and Renewable Energy, in addition to responsibilities in paragraph 5c, serves as the Senior Agency Officer (SAO) pursuant to E.O. 13423 and must do the following—
- (1) Provide progress reports, as requested, on DOE implementation of E.O. 13423 to the Chairman of the Council on Environmental Quality, the Director of the Office of Management and Budget, and the Federal Environmental Executive.
 - (2) Coordinate with Program Secretarial Officers, the Administrator for the National Nuclear Security Administration, Administrators of the Western Area Power Administration, and the Southwestern Power Administration, DOE Field Office Managers, and the Office of Human Capital Management to promote the implementation of E.O. 13423 and the sustainable environmental, energy and transportation goals of this Order and DOE O 430.2B in performance standards and performance evaluations of relevant DOE personnel, such as field office managers, environmental and energy program managers, vehicle fleet managers, contracting officials, and others, as appropriate.
 - (3) Establish leadership awards to recognize outstanding environmental, energy, or transportation management performance.
- b. Chief Health, Safety and Security Officer, in coordination with other Departmental elements, must do the following.

- (1) Develop new, or revise existing, DOE environmental protection directives, guidance, and procedures to—
 - (a) Provide guidance to Departmental elements for ensuring site ISM systems provide for environmental management systems.
 - (b) Disseminate information to Departmental elements to maximize the use of safe alternatives to ozone-depleting substances (ODS) in DOE's efforts to phase out ODS uses.
 - (c) Provide guidance to Departmental elements to incorporate sustainability goals, including the multi-year energy and transportation goals, into environmental management systems.
- (2) Evaluate the effectiveness of Departmental elements' implementation of the requirements and responsibilities of this Order.
- (3) Serve as DOE primary liaison, as appropriate, to other Federal agencies and national and international standard-setting organizations on environment, safety and health standards by—
 - (a) Reviewing environment, safety, and health standards developed by other Federal agencies and national and international standard-setting organizations applicable to DOE operations and activities.
 - (b) Coordinating appropriate review and comment of applicable standards by affected Departmental elements and transmitting DOE comments.
- (4) Support the SAO in the preparation of Departmental progress reports required pursuant to E.O. 13423 that address areas covered by this Order. Specifically, submit to the Federal Environmental Executive required annual reports for the Department on the status of implementation of the environmental management system requirements of E.O. 13423, as well as required reports on the sustainable environmental practices and goals for which the SAO has delegated responsibility to the Chief Health, Safety, and Security Officer.
- (5) Support the SAO in managing the Environmental Sustainability Star (*EStar*) Award (formerly the Pollution Prevention Star Award) program, including preparing and submitting DOE site nominations to the White House "Closing the Circle Awards" program.
- (6) Support the SAO in securing an implementation schedule from the Office of the Federal Environmental Executive (OFEE) when a site implements a new EMS.

- c. Program Secretarial Officers, the Administrator for the National Nuclear Security Administration, and the Administrators of the Western Area Power Administration, and the Southwestern Power Administration must do the following—
- (1) Implement the requirements identified in paragraph 4e and the responsibilities of paragraph 5c(3) by June 30, 2009.
 - (2) Address as part of their annual ISM effectiveness review under paragraph I3e(4) of DOE M 450.4-1, the implementation of the requirements of paragraph 4e and the responsibilities of paragraph 5c.
 - (3) Ensure that the field offices under their purview implement the requirements identified under paragraph 4e and the responsibilities under paragraph 5d(1) and (5) of this Order, and that sites under their purview revise their environmental management systems to encompass the requirements of paragraphs 4b, 4c, and 4d of this Order by June 30, 2009.
 - (4) Ensure that environmental management systems for sites under their purview include site-specific objectives and measurable targets in their environmental management systems that contribute to the achievement of the DOE Sustainable Environmental Stewardship goals found in Attachment 2 of this Order, and the energy and transportation goals in DOE O 430.2B.
 - (5) Assess as part of the line oversight of field office conducted under paragraph I3e(3) of DOE M 450.4-1, the implementation of the requirements of paragraph 4e, and responsibilities of paragraph 5d of this Order.
 - (6) Request through the annual Department budgetary process the funding and resources needed to implement the requirements of this Order and the findings and recommendations from oversight and review activities conducted in accordance with paragraph I3e(3) and (4) of DOE M 450.4-1.
 - (7) On an annual basis, select “best in class” environmental sustainability nominees from submissions from sites under their purview, and transmit the nominating information to the Office of Health, Safety and Security (HSS) for consideration for *E*Star Awards and submittal to the White House “Closing the Circle Awards” program.
 - (8) Ensure sites under their purview monitor progress toward meeting the requirements of paragraphs 4b, 4c, and 4d of this Order, and make such information available annually to the SAO and HSS.

- (9) Ensure that agreements, permits, leases, licenses, or other legally-binding obligations between DOE and a tenant or concessionaire entered into after the effective date of this Order, require that the tenant or concessionaire take actions relating to matters within the scope of the contract that facilitate DOE's compliance with the requirements of this Order.
 - (10) Coordinate with the SAO, DOE Field Office Managers, and the Office of Human Capital Management to promote the implementation of E.O. 13423 and the sustainable environmental, energy and transportation goals of this Order and DOE O 430.2B in performance standards and performance evaluations of relevant DOE personnel, such as field office managers, environmental and energy program managers, vehicle fleet managers, contracting officials, and others as appropriate.
 - (11) Ensure all personnel whose actions are affected by this Order receive, as part of their ISM training, environmental management system awareness training that addresses how to implement, manage, measure, and continually improve upon the sustainable environmental, energy, and transportation practices and goals of E.O. 13423 and its Implementing Instructions.
- d. Field Office Managers, in coordination with their reporting sites and Program Secretarial Officers and Administrators, must do the following—
- (1) Implement the requirements identified in paragraph 4e and the responsibilities of paragraph 5d(5) by June 30, 2009.
 - (2) Address as part of their annual ISM effectiveness reviews under paragraph I3f(4) of DOE M 450.4-1, the implementation of the requirements of paragraph 4e and the responsibilities of paragraph 5d, and the implementation of the requirements of paragraph 4a, 4b, 4c, and 4d of this Order by sites under their purview.
 - (3) Assess as part of the review and approval of contractors' ISM system descriptions and updates conducted under paragraph I3f(3) of DOE M 450.4-1, the implementation of the requirements in paragraphs 4a, 4b, 4c, and 4d of this Order.
 - (4) At sites with multiple environmental management systems, ensure that site-wide environmental aspects are integrated into each environmental management system or within the Field Office ISM system.
 - (5) Ensure that sites under their purview revise their environmental management system to encompass the requirements of paragraphs 4b, 4c, and 4d of this Order by June 30, 2009.

- (6) Identify when a new environmental management system is needed, propose a schedule for full implementation, and work through HSS to conduct the required consultation with the OFEE.
- (7) For those sites which have chosen to register their environmental management system to the ISO 14001:2004 (E) International Standard, field office oversight need only verify that the registration and associated audits address the scope of the environmental management system required by paragraphs 4b and 4c.
- (8) Ensure that sites under their purview include site-specific objectives and targets in their environmental management systems that contribute to the achievement of the DOE Sustainable Environmental Stewardship goals found in Attachment 2 of this Order, and the energy and transportation goals in DOE O 430.2B.
- (9) Ensure sites monitor progress toward meeting the requirements of paragraphs 4b, 4c, and 4d of this Order, and make such information available annually to the SAO and HSS.
- (10) Ensure sites' annual budget requests include the funding and resources needed to implement the requirements of this Order, including achievement of the DOE Sustainable Environmental Stewardship goals found in Attachment 2 of this Order, and the energy and transportation goals in DOE O 430.2B.
- (11) Ensure sites' compliance with the requirements of the Emergency Planning and Community Right-to-Know Act and the Pollution Prevention Act of 1990, without regard to Standard Industrial Classification/North American Industrial Classification designations.
- (12) Ensure that sites under their purview conduct environmental monitoring pursuant to the requirements in paragraphs 4c(5) and (6) of this Order.
- (13) Ensure that agreements, permits, leases, licenses, or other legally-binding obligations between DOE and a tenant or concessionaire entered into after the effective date of this Order, require that the tenant or concessionaire take actions relating to matters within the scope of the contract that facilitate DOE's compliance with this Order.
- (14) Coordinate with their cognizant Program Secretarial Officer or Administrator to promote the implementation of E.O. 13423 and the sustainable environmental, energy and transportation goals of this Order and DOE O 430.2B in performance standards and performance evaluations of relevant DOE personnel, such as field office managers,

environmental and energy program managers, vehicle fleet managers, contracting officials, and others as appropriate.

- (15) Ensure all personnel whose actions are affected by this Order receive, as part of their ISM training, environmental management system awareness training that addresses how to implement, manage, measure, and continually improve upon the sustainable environmental, energy, and transportation practices and goals of E.O. 13423 and its Implementing Instructions.
- e. Office of Human Capital Management, in coordination with other Departmental elements, must develop or revise existing DOE directives, policies, and documents to accomplish the following—
- (1) Include, as appropriate, training on this Order in the standard senior-level management training for program managers, contracting personnel, procurement and acquisition personnel, facility managers, and all employees whose actions have environmental consequences or the potential for such.
 - (2) Coordinate with the SAO, Program Secretarial Officers, the Administrator for the National Nuclear Security Administration, Administrators of the Western Area Power Administration, and the Southwestern Power Administration, and DOE Field Office Managers to promote the implementation of E.O. 13423 and the sustainable environmental, energy, and transportation goals of this Order and DOE O 430.2B in performance standards and performance evaluations of relevant DOE personnel, such as field office managers, environmental and energy program managers, vehicle fleet managers, contracting officials, and others as appropriate.
- f. Office of Management, in coordination with other Departmental elements, must develop or revise existing DOE directives, policies, and documents to accomplish the following—
- (1) Ensure property management policies and procedures preclude the Department's disposal of ozone-depleting substances (ODS) without prior coordination with the Department of Defense.
 - (2) Ensure that procurement policies and procedures promote the Department's acquisition of recycled-content and biobased-content materials, Electronic Procurement Environmental Assessment Tool (EPEAT)-registered electronics and other environmentally preferable products and services.

- (3) Ensure incorporation of planning and management requirements for historic property preservation pursuant to Section 3(b)(vi) of E.O. 13327, *Federal Real Property Asset Management*.
 - (4) Request through the annual Department budgetary process the funding and resources needed to implement the requirements of this Order.
- g. Office of the Chief Financial Officer, in coordination with other Departmental elements, must develop or revise existing DOE directives, policies, and documents to accomplish the following.
- (1) Reference DOE's 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 by Program Secretarial Officers, the Director, Office of Management, the Administrator for the National Nuclear Security Administration and the Administrators of the Western Area Power Administration and the Southwestern Power Administration to implement the requirements of this Order are considered in the formulation of DOE's annual budget request.

6. DEFINITIONS.

- a. Environmental Aspect: An element of an organization's activities, products, or services that can interact with the environment.
- b. Environmental Management System: The set of processes and practices that enable an organization to increase its operating efficiency, continually improve overall environmental performance, and better manage and reduce its environmental impacts, including those environmental aspects related to energy and transportation functions. Environmental management system implementation reflects accepted quality management principles based on the "Plan, Do, Check, Act," model found in the ISO 14001:2004(E) International Standard and using a standard process to identify and prioritize current activities, establish goals, implement plans to meet the goals, evaluate progress, and make improvements to ensure continual improvement.
- c. Environmentally Preferable Products: Products or services that have a lesser or reduced effect on human health and environment when compared with competing products or services that serve the same purpose, including materials that result in no waste, less waste, or less toxic waste across the entire life-cycle. This comparison may consider raw materials acquisition, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product or service.

The Environmentally Preferable Procurement goal in Attachment 2 of this Order contains examples of sustainable acquisition practices.

- d. Field Office Managers: The terms “field office” and “field office managers” are used interchangeably to indicate the DOE field office with direct management and oversight of operational activities, which may be performed by contractors or by Government-Owned-Government-Operated (GOGO) personnel at the site. “Field offices” may have various other designations, including operations office, site office, and project office. Where multiple levels of DOE field organizations exist, applicable DOE Program Secretarial Officers and Administrators should determine in their ISM system descriptions how to apply these responsibilities.

7. REFERENCES.

- a. Executive Order (E.O.) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. ofee.gov/eo/EO_13423.pdf
- b. Instructions for Implementing E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. ofee.gov/eo/eo13423_instructions.pdf
- c. E.O. 13327, *Federal Real Property Asset Management*.
- d. ISO 14001:2004(E) Environmental Management Systems: Requirements with Guidance for Use. webstore.ansi.org
- e. Title XXXII of P.L. 106-65, National Nuclear Security Administration Act, as amended.
- f. DOE Handbook, *Chemical Management*, Vol. 2, Chemical Safety and Lifecycle Management, DOE-HDBK-1139/2-2006.
- g. DOE G 450.1-4, *Implementing Guide, Wildland Fire Management Program for Use with DOE 450.1, Environmental Protection Guidance*, dated 2-11-04.
- h. DOE P 450.4, *Safety Management System Policy*, dated 10-15-96.
- i. DOE M 450.4-1, *Integrated Safety Management System Manual*, dated 11-1-06.
- j. DOE O 430.2B, *Departmental Energy, Renewable Energy, and Transportation Management*, dated 2-27-08.
- k. DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, dated 7-28-06.
- l. Emergency Planning and Community Right-to-Know Act or Title III of Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. 11001, et seq.

- m. Pollution Prevention Act of 1990, 42 U.S.C. 13101, et seq.
 - n. Office of the Federal Environmental Executive Memorandum dated January 15, 2008, *Clarification of Declaration of Conformance Requirements in Instructions to Executive Order 13423*. www.fedcenter.gov/Clarification Document/
8. NECESSITY FINDING STATEMENT. In compliance with Sec. 3174 of P.L. 104-201 (50 U.S.C. 2584 note), DOE hereby finds that this Order is necessary for the protection of human health and the environment or safety, fulfillment of current legal requirements, or conduct of critical administrative functions.
9. CONTACT. For assistance, contact the Office of Nuclear Safety, Quality Assurance and Environment at 202-586-5680.

BY ORDER OF THE SECRETARY OF ENERGY:



JEFFREY F. KUPFER
Acting Deputy Secretary

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

Contractors managing and operating Department of Energy (DOE), including National Nuclear Security Administration (NNSA), facilities are responsible for: (1) compliance with the requirements of this contractor requirements document (CRD) regardless of the performer of the work, and (2) flowing down the requirements of the CRD of the Order to subcontracts to the extent necessary to ensure contractors' compliance with the requirements.

As directed by the contracting officer, to assist the Department in meeting its responsibilities under E.O. 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, and its Implementing Instructions, contractors must—

1. Develop and implement an environmental management system. This system must be integrated into the site's Integrated Safety Management (ISM) system. (See the CRD in DOE M 450.4-1, *Integrated Safety Management System Manual*, dated 11-1-06.)
 - a. Each environmental management system must—
 - (1) Reflect the environmental management system elements and framework found in the International Organization for Standardization's (ISO) 14001:2004 (E) International Standard or equivalent, including policies, procedures and training to identify operations and activities with significant environmental impacts; to manage, control, and mitigate the impacts of these operations and activities; and to assess performance, implement corrective actions where needed, and ensure continual improvement.
 - (2) Include environmental, energy, and transportation objectives and measurable targets that are reviewed annually, updated as appropriate, and contribute to achieving the DOE Sustainable Environmental Stewardship goals found in Attachment 2 of DOE O 450.1A, *Environmental Protection Program*, dated 6-4-08, and the energy and transportation goals in the CRD in DOE O 430.2B, *Departmental Energy, Renewable Energy and Transportation Management*, dated 2-27-08.
 - (3) Address tenant or concessionaire activities wherever such activities affect DOE's environmental, energy, and transportation management.
 - (4) Contain the elements of an Environmental Compliance Management Plan pursuant to the Council on Environmental Quality's *Instructions for Implementing Executive Order 13423*, page 9, section B, including—
 - (a) A clear statement by senior leadership committing to achieve and maintain compliance with applicable environmental protection requirements.

- (b) Clearly articulated roles and responsibilities related to environmental performance at all appropriate levels to ensure accountability for less than desired environmental performance.
 - (c) An environmental compliance audit and review program that identifies compliance deficiencies and root causes of non-compliance.
 - (d) Integration of compliance management information and resource allocation procedures to ensure that audit findings and root causes of non-compliance are tracked and addressed, including allocation of funding.
- b. The environmental management system must encompass the environmental aspects of site operations and activities, including environmental aspects of energy and transportation functions, and it must promote the long-term stewardship of a site's natural and cultural resources throughout its design and construction, operation, closure, and post-closure life cycle. The environmental management system must address the following—
 - (1) Sustainable practices for enhancing environmental, energy, and transportation management performance, as stipulated in Section 3(a) of E.O. 13423 and its Implementing Instructions.
 - (2) Protection of public health and the environment, including but not limited to—
 - (a) Conformity 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) Assessment of the hazard of engineered nanomaterials and implementation of appropriate environment, safety and health controls. (See DOE P 456.1, *Secretarial Policy Statement on Nanoscale Safety*, dated 9-15-05.)
 - (3) Protection of site resources from wildland fires consistent with site wildland and operation fire management plans that consider the Federal

Wildfire Management Policy recommendations. (See DOE G 450-1.4, *Implementation Guide, Wildland Fire Management Program*, for Use with DOE 450.1, *Environmental Protection Program*, dated 2-11-04).

- (4) Identification and protection of cultural resources.
 - (5) The conduct of environmental and effluent monitoring, as appropriate, to characterize pre-operational conditions, and to detect, characterize, and respond to releases from site operations and 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 and the population; and evaluate the potential impacts to the biota in the vicinity of the release. Where appropriate, conduct an integrated monitoring and sampling approach to avoid duplicative data collection.
 - (6) Assurance that analytical work for environmental and effluent monitoring supports data quality objectives, using a documented approach for collecting, assessing, and reporting environmental data.
 - (7) The conduct of appropriate operational assessments, such as pollution prevention opportunity assessments, of site operations and activities to identify opportunities to implement sustainable practices as part of achieving DOE's Sustainable Environmental Stewardship goals found in Attachment 2 of DOE O 450.1A.
- c. The environmental management system must be validated according to the following criteria.
- (1) An environmental management system shall be considered fully implemented when—
 - (a) The environmental management system has been the subject of a formal audit by a qualified party outside the control or scope of the environmental management system.
 - (b) The appropriate contractor senior management and DOE field office management have recognized and addressed the findings of the audit.
 - (c) The appropriate senior manager accountable for implementation of the environmental management system and the cognizant Field Officer Manager, have declared conformance of the environmental management system to the requirements of this CRD.

- (2) Environmental management systems, including those already declared under the previous requirements of the CRD in DOE O 450.1 must meet the new requirements for being “fully implemented” by June 30, 2009.
 - (3) To remain fully implemented, at least every three years (a) the environmental management system must be audited by a qualified party outside the control or scope of the organization implementing the environmental management system, and (b) the conformance declaration 1c(1)(c) is renewed, as appropriate.
2. Monitor progress toward meeting the requirements of paragraph 1a, 1b, and 1c of this CRD, and make such information available annually through the DOE operations/field/site office to the Senior Agency Officer (SAO) and the Office of Health, Safety and Security.
3. Include in site environmental management systems practices to maximize the use of safe alternatives to ozone-depleting substances (ODS), whereby—
 - a. The use of ODS in new equipment and facilities is eliminated.
 - b. The use of ODS in existing equipment is phased out as the existing equipment reaches its expected service life, and the maintenance of equipment is conducted to prevent or fix leaks.
 - c. The replacement of leaking equipment is carried out when leak repair is no longer cost-effective or where it is life-cycle cost-effective to replace the equipment.
 - d. Coordination is conducted within DOE and with the Department of Defense’s (DoD) Defense Supply Center Richmond, a component of the Defense Logistics Agency (DLA), as appropriate, before disposal of ODS removed or reclaimed from equipment (including disposal as part of a contract, trade, or donation). For situations in which the recovered ODS is a critical requirement for DoD missions, the DOE facility transfers the ODS to DoD. (See DLA’s ODS website at: www.dscr.dla.mil/ExternalWeb/UserWeb/AviationEngineering/Ozone/contact.htm)
4. Assist the Department in meeting the chemical emergency planning, release, and reporting requirements of the Emergency Planning and Community Right-to-Know Act and the Pollution Prevention Act of 1990, without regard to Standard Industrial Classification/North American Industrial Classification designations. All other statutory and regulatory exemptions apply.
5. Assist the Department in meeting obligations imposed on it by E.O. 13327, *Federal Real Property Asset Management*, Section 3b(vi), by ensuring incorporation of planning and management requirements for historic property.

SUSTAINABLE ENVIRONMENTAL STEWARDSHIP GOALS

1. PURPOSE.

- a. To establish Department of Energy (DOE) Sustainable Environmental Stewardship goals that advance the sustainable practices for enhancing environmental, energy, and transportation management performance, as stipulated in Executive Order (E.O.) 13423, *Strengthening Federal Environment, Energy, and Transportation Management*.
- b. To integrate sustainable practices into DOE operations as cost-effective business practices that will—
 - (1) prevent pollution,
 - (2) reduce environmental hazards,
 - (3) protect public health and the environment,
 - (4) avoid pollution control and waste disposal costs, and
 - (5) improve operational capability and overall mission sustainability.

2. GOALS, OBJECTIVES, AND SUSTAINABLE PRACTICES.

The Department is to achieve these performance-based Sustainable Environmental Stewardship goals through site implementation of the accompanying sustainable practices, as appropriate, and their integration into environmental management systems pursuant to DOE 450.1A and its Contractor Requirements Document (CRD). DOE sites are to consider legal requirements, requirements in E.O. 13423 and its Implementing Instructions, mission performance, and life-cycle costs when selecting specific sustainable practices for achieving the Sustainable Environmental Stewardship goals. Additionally, sites may identify other sustainable practices appropriate to site-specific operations and activities, as necessary to achieve the goals.

3. PERFORMANCE MEASURES.

Measure progress toward meeting the requirements of paragraph 4 of DOE O 450.1A and paragraph 1 of its CRD, and make such information available annually through the Pollution Prevention Tracking and Reporting System to the Senior Agency Official and the Chief Health, Safety and Security Officer pursuant to paragraphs 5c(8) and 5d(7) of DOE O 450.1A and paragraph 2 of its CRD.

GOAL	REDUCE OR ELIMINATE THE GENERATION AND/OR TOXICITY OF WASTE AND OTHER POLLUTANTS AT THE SOURCE THROUGH POLLUTION PREVENTION
OBJECTIVE	Reduce environmental hazards, protect environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational sustainability by eliminating or minimizing the generation of wastes and other pollutants, through source reduction including segregation, substitution, and reuse, that would otherwise require storage, treatment, disposal, and long-term monitoring and surveillance (i.e., future environmental legacies).
SUSTAINABLE PRACTICES	<ul style="list-style-type: none"> • Establish operational assessments, such as pollution prevention opportunity assessments, of waste generating activities, as objectives and measurable targets in site environmental management systems. • Based on operational assessments, establish objectives and measurable targets in site environmental management systems for the prevention, reduction, reuse, and recycling of waste streams generated at sites. • Identify through the annual Department budgetary process the funding and resources needed to implement this sustainable environmental stewardship goal and site-specific objectives and targets that are not alternatively funded through Energy Savings Performance Contracts (ESPCs). • 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.).

<p>GOAL</p>	<p>REDUCE OR ELIMINATE THE ACQUISITION, USE, AND RELEASE OF TOXIC AND HAZARDOUS CHEMICALS AND MATERIALS</p>
<p>OBJECTIVE</p>	<p>Reduce environmental hazards, protect environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational sustainability by eliminating or minimizing the acquisition, use, and associated release of toxic and hazardous chemicals and materials, including hazardous substances, ozone-depleting substances (ODS), and other pollutants, that would otherwise require control, treatment, monitoring, and reporting.</p>
<p>SUSTAINABLE PRACTICES</p>	<ul style="list-style-type: none"> • Establish operational assessments, such as pollution prevention opportunity assessments, of activities using toxic and hazardous chemicals and materials, as objectives and measurable targets in site environmental management systems. • Based on operational assessments, establish objectives and measurable targets in site environmental management systems for minimizing the acquisition, use, and disposal of toxic and hazardous chemicals and materials to reduce releases of pollutants to the environment (air, water, soil, biota). For example— <ul style="list-style-type: none"> – using more environmentally benign solvents and solvent-less systems that reduce or eliminate the use and/or generation of hazardous substances; or – designing analytical products and processes that reduce or eliminate the use and/or generation of hazardous substances. • Employ tools such as the Green Chemical Alternatives Purchasing Wizard to identify more environmentally benign alternatives and substitutes for laboratory-related chemicals or processes. (web.mit.edu/environment/academic/purchasing.html) • Ensure sites' environmental management systems include practices to maximize the use of safe alternatives to ODS whereby— <ul style="list-style-type: none"> – the use of ODS in new equipment and facilities is eliminated, – the use of ODS in existing equipment is phased out as the existing equipment reaches its expected service life, and the maintenance of equipment is conducted to prevent or fix leaks,

GOAL	REDUCE OR ELIMINATE THE ACQUISITION, USE, AND RELEASE OF TOXIC AND HAZARDOUS CHEMICALS AND MATERIALS
	<ul style="list-style-type: none">– the replacement of leaking equipment is carried out when leak repair is no longer cost-effective, or where it is life-cycle cost-effective, to replace the equipment, and– coordination is conducted within DOE and with the Department of Defense's (DoD) Defense Supply Center Richmond, a component of the Defense Logistics Agency (DLA), as appropriate, before disposal of ODS removed or reclaimed from equipment (including disposal as part of a contract, trade, or donation). For situations in which the recovered ODS is a critical requirement for DoD missions, the DOE facility transfers the ODS to DoD. (See DLA's ODS website at www.dscr.dla.mil/ExternalWeb/UserWeb/AviationEngineering/Ozone/contact.htm)– Implement a chemical inventory tracking system that integrates information throughout the entire chemical lifecycle covering procurement, storage, use, transfer/movement, and final disposition.• Identify through the annual Department budgetary process the funding and resources needed to implement this sustainable environmental stewardship goal and site-specific objectives and targets that are not alternatively funded through ESPCs.• Participate in voluntary environmental partnership programs (e.g., Adopt Your Watershed, Climate Leaders, Green Chemistry and Engineering Programs, National Environmental Performance Track, National Partnership for Environmental Priorities, etc.) where there is a programmatic benefit from doing so (community outreach, technology transfer, regulatory incentives, etc.).

<p>GOAL</p>	<p>MAXIMIZE THE ACQUISITION AND USE OF ENVIRONMENTALLY PREFERABLE PRODUCTS IN THE CONDUCT OF OPERATIONS</p>
<p>OBJECTIVE</p>	<p>Reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational sustainability 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>SUSTAINABLE PRACTICES</p>	<ul style="list-style-type: none"> • Establish environmentally preferable purchasing objectives and measurable targets in site environmental management systems. • Specify environmentally preferable products in the acquisition of site supplies and services. • Procure the following environmentally preferable products, when available, affordable, and effective— <ul style="list-style-type: none"> – Environmental Protection Agency (EPA) designated recycled-content products, – Department of Agriculture designated biobased-content products, – EPA Significant New Alternatives Policy (SNAP) Program acceptable substitutes for ODS, – EPA Energy Star® labeled and FEMP-designated products, – Other environmentally preferable products, such as— <ul style="list-style-type: none"> ○ Cleaning products certified by GreenSeal, a U.S. standard setting and environmental labeling organization (www.greenseal.org), ○ EPA’s list of green cleaning resources (www.epa.gov/epp/pubs/products/cleaning.htm), ○ GreenGuard indoor air quality certified office supplies, furniture, and building materials (www.greenguard.org), ○ General Services Administration Advantage “environmental aisle” providing access to green products online (www.gsaadvantage.gov),

GOAL	MAXIMIZE THE ACQUISITION AND USE OF ENVIRONMENTALLY PREFERABLE PRODUCTS IN THE CONDUCT OF OPERATIONS
	<ul style="list-style-type: none">○ EcoLogo, the Canadian government's green product certification mark (www.environmentalchoice.com).● Utilize American Petroleum Institute (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.● Integrate environmentally preferable purchasing into new construction and major renovation projects, pursuant to the High Performance Sustainable Building requirements of DOE Order 413.3A. <i>Program and Project Management for the Acquisition of Capital Assets</i>, and into construction and renovation-related general plant projects and institutional general plant projects, where life-cycle cost-effective.● Identify through the annual Department budgetary process the funding and resources needed to implement this sustainable environmental stewardship goal and site-specific objectives and targets that are not alternatively funded through ESPCs.● Participate in voluntary environmental partnership programs where there is a programmatic benefit from doing so (community outreach, technology transfer, regulatory incentives, etc.).

GOAL	REDUCE OR ELIMINATE THE ENVIRONMENTAL IMPACTS OF ELECTRONIC ASSETS
OBJECTIVE	<p>Reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and liability of DOE programs, and maximize operational sustainability through the incorporation of electronics stewardship practices thereby minimizing the economic and environmental impacts of managing toxic by-products and hazardous wastes generated in the conduct of site activities.</p>
SUSTAINABLE PRACTICES	<ul style="list-style-type: none"> • Establish electronics stewardship objectives and measurable targets in site environmental management systems. • Specify environmentally preferable electronics qualified through the Electronic Procurement Environmental Assessment Tool (EPEAT) or its successor, in the solicitation and acquisition of desktop computers, notebooks, monitors, and other electronic products for which there are EPEAT standards. <ul style="list-style-type: none"> – Utilize the EPEAT network to identify specific models of desktop computers, notebooks and monitors registered 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 (www.epeat.net). – Utilize the EPEAT network to identify other electronic products (e.g. servers, printers, copiers, etc.) registered in the future by manufacturers and vendors as environmentally preferable. – Strive to purchase EPEAT silver-rated electronic products or higher (gold) as available. • Enable Energy Star® features (power management capabilities) on all computers, monitors, printers, copiers, and other electronic equipment, or to the maximum degree based on mission needs. • Extend the useful lifespan of computer systems and other electronic products through software upgrades and use of EPA’s Guidance to Improve the Operation of Electronic Products provided at www.federalelectronicchallenge.net/docs/oamdm.pdf. Strive to extend the useful life of electronic equipment to four (4) or more years. • Reuse surplus and recycle end-of-life electronics.

GOAL	REDUCE OR ELIMINATE THE ENVIRONMENTAL IMPACTS OF ELECTRONIC ASSETS
	<ul style="list-style-type: none"> - Utilize the recycling services available through the following sources as an environmentally compliant means for disposition of end-of-life electronics— <ul style="list-style-type: none"> o Environmental Protection Agency Recycling Electronics and Asset Disposition (READ) Services Government Wide Acquisition Contract (www.epa.gov/oam/read/index.htm), o Department of Justice UNICOR Electronic Recycling Program (www.unicor.gov/recycling), o General Services Administration Federal Supply Service Multiple Award Schedule 899, Reclamation, Recycling and Disposal Services, o Recyclers who meet or exceed EPA’s guidelines for materials management; safe electronics recycling (www.epa.gov/plugin), o Recyclers that are members, in good standing, of one or more of the following professional associations— <ul style="list-style-type: none"> International Association of Electronic Recyclers, Institute of Scrap Recycling Industries, National Recycling Coalition, Electronic Industries Alliance. - Utilize GSA’s Computers for Learning Program (GSAXcess) for transferring surplus computer systems and other surplus electronics to eligible schools (gsaxcess.gov); - Specify in IT contracts for leased electronic equipment “take-back” provisions where, at the end of the lease period, the equipments is reused, refurbished, donated, or recycled using environmentally sound management practices.

GOAL	REDUCE OR ELIMINATE THE ENVIRONMENTAL IMPACTS OF ELECTRONIC ASSETS
	<ul style="list-style-type: none">• Identify through the annual Department budgetary process the funding and resources needed to implement this sustainable environmental stewardship goal and site-specific objectives and targets that are not addressed through ESPCs.• Participate in the Federal Electronics Challenge, the Electronics Reuse and Recycling Challenge, and the Plug-in to eCycling Partnership where there is a programmatic benefit from doing so (community outreach, technology transfer, regulatory incentives, etc.).

GOAL	REDUCE DEGRADATION AND DEPLETION OF ENVIRONMENTAL RESOURCES THROUGH POST-CONSUMER MATERIAL RECYCLING
OBJECTIVE	Protect environmental resources, minimize life-cycle cost of DOE programs, and maximize operational sustainability 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.
SUSTAINABLE PRACTICES	<ul style="list-style-type: none"> • Establish post-consumer material recycling objectives and measurable targets in site environmental management systems. • Recycle office paper, cardboard, aluminum, plastics, and glass. • Recycle spent oil, hydraulic fluid, lubricants, and solvents. • Recycle construction and demolition debris. <ul style="list-style-type: none"> – 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. – 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 (www.wbdg.org/tools/cwm.php). – Specify recycling of construction materials into new construction and major renovation projects, pursuant to the High Performance Sustainable Building requirements of DOE Order 413.3A, and into construction and renovation-related general plant projects and institutional general plant projects, where life-cycle cost-effective. • Recycle empty, non-refillable, high-density polyethylene (HDPE) plastic pesticide product containers.

GOAL	REDUCE DEGRADATION AND DEPLETION OF ENVIRONMENTAL RESOURCES THROUGH POST-CONSUMER MATERIAL RECYCLING
	<ul style="list-style-type: none">– Utilize the Ag Container Recycling Council (ACRC), a non-profit organization to collect and recycle professional end-users’ containers of EPA registered pesticide products to include agricultural, turf, forestry, vegetative management, specialty pest control, adjuvants, crop oils, and surfactants (www.acrecycle.org).• Collect spent toner cartridges and batteries for remanufacturing.• Recycle surplus commodities and by-products.• Utilize material exchange programs such as Recycler’s World Network (www.recycle.net) or the DOE Materials Exchange Network (www.er.doe.gov/epic/recycle.html) to transfer unwanted materials to alternate users.• Identify, through the annual Department budgetary process, the funding and resources needed to implement this sustainable environmental stewardship goal and site-specific objectives and targets that are not alternatively funded through ESPCs.