

## Summary of Changes

to

450.1B

Environmental Management System (EMS)

### **Revised Version Issued as 450.1C of 11/28/03**

NETL Order 450.1B, Environmental Management System (EMS), of 1/8/03, has undergone revisions. The Order has been changed to move the delegated responsibilities of the Deputy Director for Operations back to the NETL Director and to change the Deputy Director, Operations, to the Deputy Director. A reference to the DOE Policy 454.1, Use of Institutional Controls, has been added. The two attachments have been removed, and users have been pointed to the EMS website for this information. Please replace NETL Order 450.1B with NETL Order 450.1C.

The most recent and official controlled hard copy version of this directive resides with NETL's Directives Coordinator. An electronic version of the controlled directive has been placed on the NETL Intranet for employee use. Printed hard copies of this electronic version are considered noncontrolled documents.

# U.S. Department of Energy

National Energy Technology Laboratory

# ORDER

450.1C

DATE: 11/28/03

**SUBJECT:** ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

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1. OBJECTIVE. To define NETL's environmental management system (EMS), to describe its integration with other NETL systems, processes and programs, and to provide the core of NETL's EMS manual.
2. CANCELLATION. NETL Order 450.1B, Environmental Management System (EMS), of 1/8/03.
3. APPLICABILITY. This Order is applicable to and covers all onsite activities controlled by and conducted at NETL by NETL employees involving onsite research, site support operations, and ES&H support.
4. REQUIREMENTS.
  - a. General Requirements
    - (1) The NETL EMS is implemented through this Order and its subordinate operating plans and implementing procedures which are captured in the NETL roadmap to EMS Documentation available on the Intranet.
    - (2) The underlying framework of the NETL's EMS is DOE's Integrated Safety Management (ISM) system, whereby environmental accountability is integrated into day-to-day decision-making and long-term planning processes.
    - (3) NETL's EMS is specifically modeled after ANSI/ISO 14001-1996 Environmental Management Systems -- Specification with Guidance for Use requirements.
    - (4) NETL's EMS supports the implementation of requirements in DOE Notice 450.4 and the Fossil Energy Commitment to ES&H excellence.
    - (5) Environmental management, as an integral part of routine operations, is conducted at NETL through a process of planning, operational and administrative control, quality assurance, EMS assessments, and management review.

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**INITIATED BY:** Office of the Director  
**NO. OF PAGES/ATTACHMENTS:** 23 pages

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(6) Major program areas that implement NETL's EMS are:

- ISM.
- Environmental media and release management.
- National Environmental Policy Act (NEPA) planning.
- Emergency response management.
- Waste management.

b. Environmental Aspects

- (1) NETL maintains a process to identify the environmental aspects of its activities and projects and to determine their significance. These environmental aspects are those that NETL can control or have influence over. NETL's crosscutting team has the responsibility for identifying and scoring NETL's environmental aspects and keeping this information up-to-date.
- (2) NETL ensures that the aspects related to significant impacts are considered in setting its environmental objectives and targets.
- (3) New or modified aspects are identified through several mechanisms, including safety analysis and review processes for research operations, support operations and facilities; work control systems; and continuous improvement processes.
- (4) The Management Review Team is provided with updated information on the registry of significant environmental aspects on a recurring basis.

c. Legal Requirements, Standards, and Other Requirements

- (1) NETL maintains a process for identifying standards and requirements that enable employees to identify and have access to legal and other requirements to which NETL subscribes and that are applicable to the environmental aspects of NETL activities and services.
- (2) These standards and requirements are based on the laws, regulations, Executive Orders, DOE Directives, consensus standards, and other requirements found applicable during the assessment of ES&H aspects for projects, facilities, and site-wide operations at NETL.
- (3) Site-Wide Standards
  - DOE Headquarters (HQ) standards and requirements are generated, reviewed, and managed through DOE's directives process as described in NETL's Directives Management System.
  - NETL ES&H Directives contain a list of relevant standards and requirements collectively identified as the *NETL Focused Standards List*. The

Focused Standards List serves as NETL's site-wide standards and requirements manual.

- The Focused Standards List is reviewed regularly and updated as needed through the process outlined in NETL's standards and requirements identification process.
  - The Focused Standards List and the Standards on the list are accessible to NETL employees through the NETL Intranet or the NETL Library when only a hardcopy of the standard is available.
- (4) Activity-Specific Standards -- The NETL's SARS processes facilitate the identification of additional standards for unique aspects associated with new or modified projects, operations, and facilities. These additional requirements are applied specifically to these activities and documented in the SARS package.
- (5) Offsite Standards for Contracted Activities -- NETL's offsite activities comply with contractual standards and requirements as described in NETL's process for addressing the management of ES&H aspects in contracts and financial assistance awards.
- (6) Fossil Energy Commitment to ES&H Excellence -- NETL supports DOE-Headquarters Fossil Energy Commitment to ES&H Excellence. In accordance with this commitment, NETL:
- Implements DOE's policies on Integrated Safety Management.
  - Strives to eliminate injuries and incidents.
  - Promotes environmental protection and pollution prevention.
  - Adopts the highest applicable standards of performance.
  - Ensures management and employee accountability.
  - Encourages worker participation.
  - Facilitates public participation.
- (7) Commitments in DOE Notice 450.4 -- NETL supports the commitments in DOE Notice 450.4 in that it:
- Implements an EMS as part of its ISM system.

- Incorporates environmental compliance and EMS audits in its oversight program.
- Complies with the Emergency Planning and Community Right-to-Know Act (EPCRA) and Pollution Prevention Act requirements.
- Strives to achieve the pollution prevention and energy efficiency leadership goals issued by DOE in November 1999, including toxic release inventory goal, waste reduction goal, and ozone-depleting substances reduction goal.
- Uses pollution prevention projects or activities, as appropriate, to correct and prevent non-compliance with environmental regulatory requirements.

d. Objectives and Targets

- (1) NETL maintains a process to document environmental objectives and targets at each relevant function and level within NETL.
- (2) When establishing and reviewing its objectives, NETL considers:
  - Legal and other requirements.
  - Significant environmental aspects.
  - Technological options.
  - Financial, operational, and business requirements.
  - Views of interested parties.
- (3) NETL's ES&H Division, in collaboration with Line Managers, RPs, and the NETL EMS Crosscutting Team, develops and maintains NETL's environmental objectives and targets. Any employee may recommend additional EMS objectives and targets to the ES&H Division for consideration.
- (4) The NETL EMS Representative is responsible for submitting the objectives and targets to the Management Review Team for approval.
- (5) The objectives and targets are consistent with NETL's environmental policy, including the commitment to prevention of pollution.

- (6) The *Registry of Objectives and Targets* is maintained and approved by the Management Review Team. The Management Review Team is provided with updated information on the registry on a recurring basis.
- (7) NETL's process for developing institutional metrics on ES&H performance is described in NETL Directives addressing NETL's ES&H performance criteria and measurements processes.

e. Environmental Management Program

- (1) NETL's Environmental Management Program consists of two major components:
  - Longer-term "baseline" programs implemented through NETL's EMS and ES&H-related directives.
  - Shorter-term activities implemented through Environmental Management Plans (EMPs) that are generated and managed to achieve many of the shorter-term EMS objectives and targets.
- (2) These programs strive to comply with relevant laws, regulations, Executive Orders, and DOE requirements since compliance is a priority at NETL. However, variances or exemptions from laws and regulations may be sought whenever it is prudent to do so in an effort to meet NETL's mission, as stated in its enabling statutes.
- (3) Baseline Environmental Management Programs
  - NETL's ES&H Directives establish baseline programs that represent NETL's environmental management of ongoing operations. These directives are revised to accommodate changes in operations.
  - NETL's primary environmental protection programs address various aspects associated with either defined media (e.g., air, surface water, groundwater) or potential pollution routes (e.g., spills). These programs are defined in the "NETL Environmental Media and Release Management" Operating Plan.
  - NETL's primary environmental planning program associated with analysis of new activities is defined in the P 451.1-1, NEPA Implementation.
  - NETL's primary waste management program addressing risk-related and resource-related factors of waste handling, use, re-use, storage, transportation, and disposal is defined in the "NETL Waste Management Program." The program addresses both non-hazardous and hazardous waste, as well as resource use, pollution prevention, and recycling.
  - Activities associated with implementing NETL Directives' requirements are prioritized and budgeted for in NETL's 5-Year ES&H Management Plan

through the developing and scoring (using DOE's risk priority models) of "activity data sheets." The NETL 5-Year ES&H Management Plan is updated annually to ensure that new developments are considered.

- The primary responsibility for implementing requirements in EMS-related directives is typically with the assigned ES&H Program Managers.

(4) Environmental Management Plans (EMPs)

- NETL maintains a process for developing and implementing EMPs that provide for the achievement of NETL's shorter-term objectives and targets. These EMPs are written to address objectives and targets that are not otherwise addressed through the existing NETL ES&H Directives. The process requires the designation of responsibility for achieving objectives and targets at each relevant function and level of the organization, as well as the means and timeframe by which they are to be achieved. These EMPs are typically written at the specific and relevant project, facility, or operation level.
- The NETL process requires creating new EMPs or modifying existing EMPs whenever new objectives and targets are identified.
- EMPs are prioritized and budgeted for in NETL's 5-Year ES&H Management Plan through developing and scoring (using DOE's risk priority models) of "activity data sheets." The NETL 5-Year ES&H Management Plan is updated annually to ensure that new developments are considered.
- The responsibility for EMP approval resides with the Line Manager of the EMP RP.
- The responsibility for EMP implementation resides with the Line Managers and RPs responsible for the relevant project, facility, or operation.
- EMPs are communicated to all levels of NETL's organization by posting on NETL's Intranet.

f. Structure and Responsibility

- (1) The structure of NETL's EMS can be found on the EMS Intranet webpage.
- (2) Higher-level roles, responsibilities, and authorities are defined, documented, and communicated in NETL's functions, responsibilities, and authorities manual (FRAM). Specific roles, responsibilities and authorities are defined in NETL's individual ES&H Directives.
- (3) Environmental management at NETL is conducted in a cyclic process that is integrated throughout laboratory and support operations. The process begins with work planning, followed by hazard analysis, work performance, monitoring and

measurement, feedback, and then returns to the work planning stage, in a cycle of continuous improvement.

- (4) NETL's Director has overall responsibility for establishing NETL's environmental policy, ensuring compliance with the EMS as described in this Order, securing funding for NETL's operational and environmental programs, and conveying to line management their responsibilities for compliance with the EMS requirements.
- (5) The NETL Deputy Director is the NETL Environmental Steward and allocates resources essential to the implementation and control of the EMS. Resources include human resources and specialized skills, and technology and financial resources. The NETL Deputy Director is the senior management champion of the EMS.
- (6) The Director, ES&H Division, is the *NETL EMS Representative*, who has responsibility and authority for:
  - Ensuring that EMS requirements are established, implemented, and maintained in accordance with this Order and ISO 14001; and
  - Reporting on the performance of the EMS to the Management Review Team for review and as a basis for EMS improvement.
- (7) The NETL Director appoints and heads a Management Review Team that is comprised of senior management whose purpose is to review and approve NETL's EMS objectives and targets, review NETL's overall EMS performance, and recommend EMS improvement opportunities and corrective actions. The current membership of the team is available on the Intranet.
- (8) NETL has established additional EMS program managerial positions and teams by functional titles as defined in Section 5 of this Order.
- (9) Additional ES&H managerial positions and teams are presented in the NETL ES&H Directives. The roles, responsibilities, and lines of authority are presented within each ES&H Directive. The NETL EMS Representative ensures that functional titles identified in an ES&H Directive have at least one assigned individual responsible for managing the requirements. A matrix that correlates the functional titles/positions identified in the NETL ES&H Directives with the specific individual or individuals assigned responsibility for the titles/positions is posted on the NETL Intranet.

g. Training, Awareness, and Competence

- (1) NETL maintains a process to ensure the proper identification of training needs. All personnel whose work may create a significant impact to the environment

receive training on the NETL EMS, as well as other training appropriate in the proper management of those impacts.

- (2) NETL ensures that employees receive training to:
  - Make them aware of the importance of conformance with the NETL environmental policy and procedures and with the requirements of the EMS;
  - Provide them with information about the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance;
  - Remind them of their roles and responsibilities in achieving conformance with the NETL environmental policy and procedures and with the requirements of the EMS, including emergency preparedness and response requirements; and
  - Inform them of the potential consequences of departure from specified operating procedures.
- (3) All NETL employees are provided with training in the basic elements of the NETL EMS using a computer-based training module. This training provides an understanding of the importance of their roles and responsibilities as specified in the implementing directives.
- (4) NETL ensures that newly hired employees receive appropriate training prior to the assignment of responsibilities.
- (5) Many of NETL's Directives provide additional ES&H training requirements.
- (6) Through the hiring and training processes at NETL, personnel performing tasks that can cause significant environmental impacts are competent on the basis of appropriate education, training, and experience. In addition, each individual and their Line Manager is responsible for ensuring that all required additional training is completed before beginning work on an assignment.
- (7) Specific training for workers involved with projects, facilities, or operations associated with managing significant environmental aspects is typically conducted by line management and NETL's ES&H training team.
- (8) NETL posts on the Intranet the current fiscal year ES&H training schedule. This training schedule provides a listing of the principal ES&H courses currently offered at NETL by the ES&H Division.

h. Communication

- (1) NETL maintains processes to address communications about its environmental aspects and EMS. This process ensures:
  - Internal communication among the various levels and functions of the NETL organization regarding environmental aspects and the EMS;
  - Receiving, documenting, and responding to relevant communication from external interested parties.
- (2) External Communications -- NETL follows a process for external communications regarding its significant environmental aspects, and to record its decision about significant environmental aspects. The use of community interest groups (CIGs) and the NEPA process provide two of the means of external communication about NETL's activities that significantly affect the environment. Through the NEPA process, the public, other Federal agencies, and state agencies are encouraged to interact with NETL and to participate in important environmental matters that significantly affect the environment.
- (3) Internal Communications -- NETL effects internal ES&H communications through processes of training, supervision, staff meetings, feedback, lessons learned, contract provisions, correspondence, hazard communications (including signs, labels, and material safety data sheets), emergency procedures, occurrence reporting, NEPA disclosures, work permits, and work control processes. To the extent practicable, communications and documents are posted on the NETL Intranet.

i. Environmental Management System Documentation

- (1) NETL maintains information, in paper or electronic form, to:
  - Describe the core elements of the management system and their interaction;
  - Provide direction to related documentation.
- (2) NETL documents its core EMS elements through the following systems:
  - The NETL ES&H Directives.
  - The Five-Year ES&H Management Plan.
  - Supporting reports, tables, lists, and registries.

- (3) NETL ES&H Directives, supporting reports, tables, lists, and registries are maintained on the NETL Intranet and establish the core elements of the EMS and their interaction.

j. Document Control

- (1) NETL maintains a process for controlling documents required by this EMS to ensure that:
- They can be located;
  - They are periodically reviewed, revised as necessary, and approved for adequacy by authorized personnel;
  - The current versions of relevant documents are available on the intranet for use by employees;
  - Obsolete documents are promptly removed from all points of issue and points of use, or otherwise assured against unintended use; any obsolete documents retained for legal and/or knowledge preservation purposes are suitably identified.
- (2) EMS documentation is legible, dated, readily identifiable, maintained in an orderly manner, and retained for a specified period. Procedures and responsibilities have been established and are being maintained concerning the creation and modification of the various types of documents.
- (3) The core of the EMS is embodied within the NETL ES&H Directives. Official approved copies of all EMS documents are posted on the NETL Intranet. Official copies of ancillary tables, lists, and registries are maintained on the NETL Intranet and are reviewed and updated as required.
- (4) All directives are posted immediately after approval and have a date of issue or revision. These directives remain effective while posted in the Intranet, have an ID number, contain cross references, and are reviewed and updated by responsible document “owners.”
- (5) ‘Tier 1’ documentation (directives -- NETL Orders) and ‘Tier 2’ documentation (directives -- NETL Operating Plans and Procedures) are managed through NETL’s Directives System. ‘Tier 3’ documentation (NETL standard operating procedures) are managed through NETL’s conduct of operations system. ‘Tier 4’ documentation (records) are managed through NETL’s record retention and identification process.

k. Operational Control

- (1) The NETL processes for ensuring operational control are:
  - Safety analysis and review (SARS) processes;
  - Work control process;
  - Work permit process.
- (2) NETL continues to monitor those operations and activities that are associated with the significant environmental aspects in line with its policy, objectives, and targets.
- (3) NETL plans its operations and activities to ensure that they are carried out under controlled conditions by:
  - Developing and maintaining NETL ES&H Directives and standard operating procedures to cover situations where their absence could lead to deviations from the NETL environmental policy and not achieving NETL objectives and targets;
  - Stipulating operating criteria in NETL Directives, SARS documentation, or their accompanying standard operating procedures;
  - Establishing and maintaining procedures related to the identifiable significant environmental aspects of goods and services used by NETL and communicating relevant procedures and requirements to suppliers and contractors.
- (4) Other NETL ES&H Directives define technical and administrative controls for many routine activities associated with potentially significant environmental aspects. The directives specify special training requirements and emphasize employee competency. They also establish lines of oversight and control policy for potentially hazardous activities.
- (5) EMPs are written to address objectives, targets, activities, responsibilities, and costs/funding associated with the most significant residual environmental aspects, not otherwise or sufficiently controlled by NETL Directives.
- (6) Operational controls for environmental protection are typically implemented through base-line programs associated with either defined media (e.g., air, surface water, groundwater) or likely pollution routes (e.g., spills).

1. Emergency Preparedness and Response

- (1) NETL maintains processes to identify the potential for and to respond to accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with them.
- (2) In addition, NETL has provided special emergency procedures in other directives that are applicable to specific emergency situations.
- (3) NETL conducts corrective actions and/or reviews and revises, where necessary, the above noted emergency preparedness and response directives, in particular, after drills or the occurrence of accidents or emergency situations.
- (4) NETL periodically tests and practices emergency response procedures.

m. Monitoring and Measurement

- (1) NETL maintains documented processes to monitor and measure, on a regular basis, the key characteristics of its operations and activities that can have a significant impact on the environment. This includes recording of information to track regulatory status, conformance with Executive Order requirements, relevant operational controls, and achievement of the organization's environmental objectives and targets.
- (2) Monitoring and measurement occurs primarily through:
  - NETL's environmental protection/regulatory programs, especially the monitoring- and surveillance-related directives.
  - EMP requirements.
  - Requirements outlined in the SARS and NEPA processes.
  - NETL's assessment and performance measures processes.
  - Occurrence reporting, accident investigation, near misses, and lessons learned processes.
- (3) NETL maintains processes for ensuring that monitoring equipment is calibrated prior to use and is used for evaluating maintained compliance with relevant environmental legislation and regulations. Records of calibration and maintenance are maintained.
- (4) A summary of NETL's major environmental monitoring and measurement efforts is presented annually in the *NETL Annual Site Environmental Report*. Through the development of this report, NETL annually assesses compliance status with permit requirements and major environmental laws, regulations, and statutes.

(5) NETL's monitoring and measurement activities are compiled into periodic assessments that are reviewed by appropriate line management, specified review teams, or external organizations.

- The NETL ES&H assessment process addresses the assessment protocol.
- Corrective and preventive actions are initiated as specified in the NETL ES&H corrective action process.
- The assessments, management review of assessments and measurements, plus the corrective action process, constitute part of a cycle of feedback and quality assurance (QA).

(6) Institutional Performance Measures

- NETL annually revises its set of institutional performance measures and targets to reflect priorities, changing site conditions and environmental aspects, and internal/external drivers, as outlined in the NETL process for ES&H performance criteria and measurements. These revisions are contained in NETL's institutional plans and organizational operations plans.
- Collection and distribution of these performance measures are driven by both internal and external factors. External objectives/performance measures are typically established by DOE/FE through the ISM Program. The NETL ES&H Division typically gathers the information and presents it to NETL's senior staff quarterly. Additionally this information is placed on the NETL Intranet for general worker knowledge.
- High level EMS metrics are established by the Management Review Team for evaluating overall progress towards achieving the defined objectives and targets. These metrics are based, in part, on information output from NETL's Corrective Action Tracking System, and information gathered by ES&H Division for determining percent of overall targets and EMP milestones achieved. A formal progress review is conducted by the Management Review Team at least semi-annually. Findings from these reviews are used as input into setting new or modified objectives for the succeeding year.

n. Nonconformance and Corrective and Preventive Action

- (1) NETL maintains processes for defining responsibility and authority for handling and investigating nonconformance and for taking action to mitigate impacts and for initiating and completing corrective and preventive actions.
- (2) Corrective or preventive actions taken to eliminate the causes of actual and potential nonconformances are appropriate to the magnitude of the problems and commensurate with the environmental impact encountered.

- (3) NETL implements and records any changes in the NETL Directives resulting from corrective and preventive action.
- (4) NETL's Assessment Information Input System (AIIS) is used to capture non-conformances and to track corrective and preventive actions.

o. Records

- (1) NETL maintains a process for identifying EMS records, and for maintaining and disposing of these identified EMS records. These records include training records and the results of audits and reviews.
- (2) EMS records are legible, identifiable, and traceable to the activity or project involved. Environmental records are stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration, or loss. Their retention times are established and recorded in accordance with approved record retention schedules.
- (3) Records are maintained, as appropriate to the NETL EMS and to the NETL organization, to demonstrate conformance to the requirements of the ISO 14001 standard.

p. Environmental Management System Audit

- (1) NETL maintains a process:
  - To ensure that periodic audits are carried out to determine whether or not the EMS conforms to planned arrangements for environmental management, including the requirements of Integrated Safety Management (ISM) and the ISO 14001 standard; and has been properly implemented and maintained;
  - To establish the frequency, nature, and scope of the EMS audits to be performed.
  - To provide information on the results of audits to management.
- (2) The NETL Audit Program, including schedule and audit topics, is based on the environmental importance of the activity and the results of previous audits. In order to be comprehensive, the audit process covers the audit scope, frequency, and methodologies, as well as the responsibilities and requirements for conducting audits and reporting results.

q. Management Review

- (1) Members of the Management Review Team are appointed by the NETL Director.

- (2) NETL's Management Review Team periodically reviews the NETL EMS, to ensure its continuing suitability, adequacy, and effectiveness. The management review process ensures that the necessary information is collected to allow management to carry out this evaluation. This review is documented.
- (3) The management review addresses the possible need for changes to policy, objectives, and other elements of the EMS, in the light of EMS audit results, changing circumstances, and the commitment to continual improvement. NETL's Management Review Team, facilitated through NETL's Environmental Steward and NETL's EMS Representative, periodically reviews the NETL's EMS, which includes its environmental aspects, legal and other requirements, objectives and targets, environmental policy, training, communication, corrective actions, documentation control, emergency preparedness and response, operational controls, monitoring and measurement, and internal assessments. Management Review Team meetings are held as needed, but are routinely scheduled at least twice a year.
- (4) NETL's Management Review Team specifically approves the NETL's objectives and targets associated with managing NETL's significant environmental aspects.
- (5) NETL's Management Review Team makes assignments to improve the currency, relevancy, and effectiveness of its EMS.

## 5. RESPONSIBILITIES.

### a. The NETL Director:

- (1) Leads the Management Review Team.
- (2) Appoints members to the Management Review Team.
- (3) Has overall responsibility for ensuring that NETL operations are conducted within the EMS described in this Order and in compliance with all applicable Federal, state, and local environmental requirements.
- (4) Ensures implementation of the EMS by conveying to Line Managers and NETL employees their responsibilities for compliance with EMS requirements and for minimizing the environmental impacts caused by NETL projects, operations, and facilities.
- (5) Maintains an appropriate environmental support and oversight organizational structure.
- (6) Ensures that processes exist to evaluate risk and to secure resources to support required environmental risk assessment, reduction, and maintenance activities.

- (7) Promotes continuous improvement in EMS performance.
- b. The NETL Deputy Director:
- (1) Acts as the NETL Environmental Steward and senior management champion for NETL's EMS.
  - (2) Reports on the performance of the NETL's EMS to senior staff at Management Review Team meetings.
  - (3) Discusses EMS issues at senior staff meetings and management review meetings.
- c. The Director, ES&H Division:
- (1) Acts as the NETL EMS Representative for NETL's EMS efforts.
  - (2) Oversees the process for developing, evaluating, and scoring NETL's environmental aspects and developing the registry of significant environmental aspects.
  - (3) Oversees the development of proposed objectives and targets for NETL based on the registry of significant environmental aspects.
  - (4) Approves the objectives and targets prior to submittal for approval by the Management Review Team.
  - (5) Develops 5-Year ES&H Management Plan Budget to include input from Line Managers and RPs related to EMP funding.
  - (6) Executes the QA Program associated with the EMS.
  - (7) Reports on the performance of the NETL's EMS at senior staff meetings and Management Review Team meetings.
  - (8) Appoints the EMS Crosscutting Team.
- d. The NETL Management Review Team:
- (1) Approves NETL's significant environmental aspects and the objectives and targets that have been developed based on NETL's significant environmental aspects.
  - (2) Monitors the performance of NETL's EMS, including achievement of targets and objectives, and recommends improvement opportunities and/or corrective actions.
- e. The NETL EMS Crosscutting Team:
- (1) Conducts a general review of NETL projects, facilities, and operations based on stakeholder input and available information, and, based on this review, identifies and analyzes environmental aspects.

- (2) Scores the environmental aspects and develops the registry of NETL's significant environmental aspects.
- (3) Provides consultation to NETL's ES&H Division in developing EMS objectives and targets for managing significant environmental aspects.
- (4) Provides consultation to Line Managers and RPs in developing specific EMPs to achieve targets and objectives for managing significant environmental aspects.

f. Line Managers:

- (1) Provide input to the EMS Crosscutting Team related to identifying and scoring environmental aspects.
- (2) Provide input to the NETL ES&H Division related to developing EMS objectives and targets.
- (3) Develop, approve, and implement specific EMPs to achieve targets and objectives for the managing of significant environmental aspects associated with their projects, facilities, or operations.
- (4) Provide budget request information for implementing EMPs to the ES&H Division Director for input into DOE's 5-Year ES&H Management Plan budgeting process.
- (5) Ensures that employees that perform tasks which can cause significant environmental impacts are competent on the basis of appropriate education, training, and/or experience.
- (6) Provide specific training to their workers managing significant environmental aspects, including operational training and ramifications of not managing environmental aspects successfully or appropriately.
- (7) Have responsibility for the protection of the environment for all activities conducted by their subordinates, research associates, and visitors in their assigned operations and facilities.
- (8) Ensure the development of SAR covering all activities requiring completion of a SAR.
- (9) Ensure that work plans are appropriately tailored to minimize the environmental impacts of the work, approve and implement them, perform assessments of their effectiveness, and carry out improvements and corrective actions as identified.

- (10) Contribute to work planning, pre-job communication of work hazards and controls, work monitoring, and evaluation of results.

g. The ES&H Division:

- (1) Develops NETL's proposed EMS objectives and targets for Management Review Team approval based on the information contained in NETL's registry of significant environmental aspects and communication with NETL's Line Managers, workers, and the public.
- (2) Provides consultation and input to the EMS Crosscutting Team related to developing and scoring environmental aspects and generating the registry of significant environmental aspects.
- (3) Provides consultation and input to Line Managers and RPs related to developing EMPs for achieving objectives and targets.
- (4) Assists, upon request by the Line Manager or RP and dependent upon availability of resources, in implementing EMPs.
- (5) Provides ES&H staff support to activities and processes needed for the successful implementation of the EMS.
- (6) Is primarily responsible for the programmatic implementation of individual environmental regulatory programs.
- (7) Works with the NETL management to make available necessary and agreed-upon ES&H Program Managers and other support.
- (8) Acts as assessors in NETL's assessment information input system (i.e., Corrective Action Tracking System), and documents NETL's task, activities, or milestones associated with achieving EMS objectives/targets and implementing EMPs.
- (9) Gathers/generates EMS performance measurements information/data and places information/data on the NETL Intranet for general worker knowledge.
- (10) Documents EMS monitoring and measurement information through NETL's Intranet and the NETL's Annual Site Environmental Report.

h. NETL Employees:

- (1) Contribute to identification of environmental aspects in their workplace.
- (2) Provide input to the EMS Crosscutting Team related to identifying and scoring environmental aspects.

- (3) Provide input to the NETL ES&H Division related to developing EMS objectives and targets.
  - (4) Contribute to developing and implementing specific EMPs to achieve targets and objectives for managing significant environmental aspects associated with their projects, facilities, or operations.
  - (5) Contribute to the budget request for implementing EMPs to the ES&H Division Director for input into DOE's 5-Year ES&H Management Plan budgeting process.
  - (6) If applicable, receive specific training on managing significant environmental aspects associated with their work, including operational training and ramifications of not managing environmental aspects successfully or appropriately with their work.
  - (7) Define requirements and receive training appropriate to the work to be performed.
  - (8) Be responsible and accountable for becoming knowledgeable of and maintaining awareness of the EMS requirements associated with their work, understand their roles and responsibilities as specified in the implementing directives, and be responsible and accountable for the competent performance of these roles and responsibilities.
  - (9) Contribute to the formulation of controls to ensure compliance with environmental requirements associated with their work.
  - (10) Conduct their work in accordance with those controls.
  - (11) Work with their Line Managers to provide input for improvements and to resolve concerns.
  - (12) Exercise stop-work authority in cases of imminent danger to the environment.
- i. NETL's On-Site Support Contractors include the environmental management expectations of Executive Order 13148 in their annual update of their ISM system descriptions.

## 6. POLICY.

### a. NETL's Environmental Policy

It is the policy of NETL to systematically and fully integrate environmental considerations into the planning and execution of work at all levels so that the mission of NETL is successfully accomplished for the benefit of the public, the worker, and the environment.

It is the policy of NETL to establish and execute its environmental management system (EMS) based on integrated safety management (ISM) principles and processes.

Consistent with ISM principles, successful execution of the NETL's EMS requires management commitment and employee involvement. ISM processes used as the NETL EMS framework include conducting assessments; identifying standards and other requirements based on these assessments; identifying and implementing corrective and improvement actions; generating objectives, performance measures, and targets; soliciting feedback on environmental performance; creating lessons learned based on experience and knowledge; identifying and implementing continuous improvement opportunities; and training employees commensurate with their duties.

It is the policy of NETL to control its operations in a manner that reduces the hazards associated with the work to be performed; to conduct its operations in compliance with relevant Federal, state, and local environmental laws, regulations, and other requirements; and to use pollution prevention projects and activities to improve NETL's environmental posture.

It is the policy of NETL to evaluate its environmental aspects using up-front risk analyses to identify hazards, control these hazards through primarily engineering design, and reduce or eliminate these hazards using waste minimization and pollution prevention techniques.

It is the policy of NETL to require NETL Line Managers to be responsible for effective environmental performance within their programs, to involve workers in the development and execution of environmental management programs, and to objectively and fully communicate environmental information to NETL employees, to research associates, to sub-contractor personnel, to NETL stakeholders, and to the public.

## 7. REFERENCES.

- a. DOE Order 450.1, Environmental Protection Program.
- b. DOE Order 451.1, National Environmental Policy Act Compliance Program.
- c. DOE Policy 450.1, Environment, Safety and Health Policy.
- d. DOE Policy 450.5, Line Environment, Safety and Health Oversight.
- e. DOE Policy 454.1, Use of Institutional Controls.
- f. 10 CFR 1021, NEPA Implementing Procedures.
- g. 40 CFR 60 B 63, Clean Air Act Regulations (see also corresponding State regulations).
- h. 40 CFR 116, Designation of Hazardous Substances.
- i. 40 CFR 141-143, Safe Drinking Water Act Regulations (see also corresponding State regulations).

- j. 40 CFR 260-270, Resource Conservation And Recovery Act Federal Regulations (see also corresponding State regulations).
- k. 40 CFR 302, Designation, Reportable Quantities, and Notification.
- l. 40 CFR 355, Emergency Planning and Notification.
- m. 40 CFR 370, Hazardous Chemical Reporting: Community Right-to-Know.
- n. Department of Energy's Pollution Prevention and Energy Efficiency Leadership Goals, November 12, 1999.
- o. Executive Order 13101, Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition.
- p. Executive Order 13123, Greening the Government Through Efficient Energy Management.
- q. Executive Order 13148, Greening the Government Through Leadership in Environmental Management.
- r. Executive Order 13149, Greening the Government Through Federal Fleet and Transportation Efficiency.
- s. Fossil Energy Commitment to ES&H Excellence.
- t. Reference ES&H Standards:
  - (1) ISO 14001 -- Environmental Management Systems – Specification with Guidance for Use, 1996.
  - (2) ISO 14004 -- Environmental Management Systems – General Guidelines on Principles, Systems and Support Techniques, 1996.

## 8. DEFINITIONS.

- a. Community Interest Groups (CIGs) -- A group consisting primarily of local community representatives and public citizens who interact with NETL both formally and informally to discuss issues of mutual interest. The forum for this interaction is typically a scheduled community interest group meeting held at or near the NETL sites.
- b. Continual/Continuous Improvement -- Process of enhancing the EMS to achieve continuous improvements in overall environmental performance, in line with the organization's environmental policy. The term continual is synonymous with the term continuous for purposes of the EMS.

- c. EMS Crosscutting Team -- A team appointed by the EMS Representative representing a cross-section of DOE and contractor employees whose main purposes are to identify, evaluate, and score environmental aspects associated with NETL's projects, operations, and facilities and to develop a registry of NETL significant environmental aspects.
- d. EMS Representative -- The individual who has been given responsibility for representing NETL in its EMS program and coordinating activities associated with NETL's EMS program.
- e. Environment -- Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation.
- f. Environmental Aspect -- Element of an organization's activities, products, and services that can interact with the environment.
- g. Environmental Impact -- Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services.
- h. Environmental Management Plan (EMP) -- Action plans established to achieve objectives and targets approved by senior management. EMPs include detailed measurement criteria.
- i. Environmental Management System (EMS) -- Organizational structure, responsibilities, practices, procedures, process, and resources for developing, implementing, achieving, reviewing, and maintaining the environmental policy.
- j. Environmental Performance -- The measurable results of the EMS, related to an organization's control of its environmental aspects, based on its environmental policy, objectives, and targets.
- k. Environmental Policy -- Statement by the organization of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for setting of its environmental objectives and targets.
- l. ES&H -- Environment, safety, and health.
- m. Line Managers -- NETL employees who have the authority and responsibility for management of activities and supervision of personnel at NETL.
- n. Management Review Team -- A senior management team appointed by the NETL Director whose main purposes are to review and approve NETL's EMS objectives and targets, review NETL's overall EMS performance, and recommend EMS improvement opportunities and corrective actions.

- o. NETL Employee -- A person employed by DOE or its on-site contractor, including subcontractors, whose primary duty assignment involves NETL or whose regular duty assignment requires the employee to be on site at NETL for, on average, at least 2.5 days of his or her work week.
- p. NETL ES&H Program Manager -- A DOE employee who has been assigned responsibility for oversight of specific NETL ES&H program requirements contained in the NETL ES&H Directives. This person is a subject matter expert in the areas covered by an ES&H Directive or Directives and has responsibility for maintaining and updating the Directive(s) according to changing risk and/or regulatory requirements.
- q. Performance Measures -- The qualitative or quantitative metrics used to assess performance against a set of criteria.
- r. Pollution Prevention -- Use of processes, practices, materials, or products that avoid, reduce, or control pollution, which may include recycling, treatment, process changes, control mechanisms, efficient use of resources, and materials substitutions.
- s. RP -- Responsible person. A NETL employee in charge of a laboratory, project, facility, or research area.
- t. Significant Environmental Aspects -- Those NETL activities or products having the most potential to positively or negatively impact the environment.

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NETL Director