

**U.S. Department of Energy**  
**Washington, D.C.**

**ORDER**

DOE 5480.1

5-5-80

SUBJECT: ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION  
PROGRAM FOR DOE OPERATIONS

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1. PURPOSE. This order establishes the Environmental Protection, Safety, and Health Protection Program for Department of Energy (DOE) operations.
2. CANCELLATION. Interim Management Directive No. 5001, "SAFETY, HEALTH AND ENVIRONMENTAL PROTECTION," of 9-29-77.
3. SCOPE. The policy and requirements outlined in this order apply to all DOE operations and all DOE contractor operations where, under the contractual arrangements for the work to be performed, DOE has established control over environmental protection, safety, and health protection program content. The extent to which requirements apply is specified in the various supplementary chapters of this order.
4. REFERENCES.
  - a. DOE Procurement Regulations (DOE PRs), Part 9-50, which provide the clauses to be used in contracts where DOE elects to enforce environmental protection, safety, and health protection requirements.
  - b. E.O. 11807, "Occupational Safety and Health Program for Federal Employees," which establishes the requirement for Federal agencies to provide occupational safety and health programs for their employees.
  - c. 29 CFR 1960, "Safety and Health Provisions for Federal Employees," which provides the regulations and guidelines for the implementation of E.O. 11807.
  - d. DOE 5482.1, "Environmental, Safety, and Health Appraisal Program," which outlines the Department's policy and program requirements for appraisal of environmental protection, safety, and health protection programs.
  - e. DOE 5481.1, "Safety Analysis and Review System," which establishes uniform requirements for the preparation and review of safety analyses.

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*Rec'd 5/28*

- f. DOE 1324.1, "Records Disposition," which prescribes requirements for the retention and disposition of records.
- g. DOE 6430., "Facilities General Design Criteria" (to be issued), which will establish safety criteria to be used in the design of facilities.
- h. DOE 5483.1, "Occupational Safety and Health Program for Government-Owned Contractor-Operated Facilities (GOCO)," which provides guidance and establishes procedures for the GOCO safety and health program.
- i. Pending the development and promulgation of supplemental chapters to this order, the references listed in Attachment 1 may be used as guideline procedures and standards in the discharge of the Department's environmental protection, safety, and health protection responsibilities under the Occupational Safety and Health Act of 1970; Executive Order 12088; the Atomic Energy Act of 1954, as amended; and the Energy Reorganization Act of 1974, as amended.

#### 5. DEFINITIONS.

- a. Environmental protection, safety, and health protection program refers to those DOE requirements, activities, and functions in the conduct of all DOE and DOE-controlled operations that are concerned with: controlling air, water, and soil pollution; limiting to acceptably low levels risks to the well-being of both operating personnel and the general public; and protecting property adequately against accidental loss and damage. Typical activities and functions related to this program include, but are not limited to, the following: environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, process and facilities safety, and nuclear safety.
- b. Federal Employee Occupational Safety and Health program refers to that part of the environmental protection, safety and health protection program mandated by E.O. 11807 and 29 CFR 1960.
- c. DOE operations are those activities funded by DOE for which DOE has assumed responsibility for safety, health, or environmental protection.
- d. Line organization includes the assistant secretary or head of an office, the program office, or the field organization responsible for the management of a given DOE operation.

- e. DOE contractor includes any DOE prime contractor or sub-contractor subject to the contractual provisions of DOE PR-50.704-2 or other contractual provisions where DOE has elected to enforce environmental protection, safety and health protection requirements by specific negotiated contract provisions.
  - f. Standard means a specified set of rules or conditions concerned with the classification of components; delineation of procedures; definition of terms; specifications of materials, performance, design, or operations; or measurements of quality in describing materials, products, systems, services or practices. Standards may be specified by DOE as prescribed (i.e. required) or recommended.
  - g. Prescribed standards are those standards adopted by DOE that define the minimum requirements that DOE and its contractors must comply with to the extent they apply to the activities being conducted.
  - h. Recommended standards are those guides or standards adopted by DOE that DOE and its contractors shall consider for guidance, as applicable, in addition to the prescribed standards.
  - i. An exemption is a release from the requirements of this order that has been granted by the Director, Operational and Environmental Safety Division.
  - j. An exception is an interim release from a standard of the type specified under the Occupational Safety and Health Act.
  - k. A temporary variance is a short-term release from a standard of the type specified under the Occupational Safety and Health Act.
  - l. A permanent variance is a release from a standard of the type specified under the Occupational Safety and Health Act.
6. POLICY. It is the policy of the DOE to:
- a. Assure protection of the environment, the safety and health of the public, and Government property against accidental loss and damage.
  - b. Provide safe and healthful workplaces and conditions of employment for all employees of DOE and DOE contractors.
  - c. Assure compliance with applicable statutory requirements affecting Federal facilities and operations.

## 7. RESPONSIBILITIES AND AUTHORITIES.

- a. Line organizations are assigned basic responsibility for implementing the DOE environmental protection, safety, and health protection program. This responsibility is imposed on DOE contractors, as appropriate, through the DOE Procurement Regulations and the directives system. This responsibility includes program implementation, execution, and assurance that DOE and Federal environmental protection, safety, and health protection policies, regulations, and requirements are adhered to continuously and vigorously in all DOE operations. They are also responsible for implementation of the Federal Employee Occupational Safety and Health program. Line officials shall:
- (1) Provide clear and explicit delegations of authority and responsibilities.
  - (2) Assure that appropriate program elements, as identified in Attachment 2, are included in program plans and proposals for design, construction, operation, modification, and decommissioning of DOE Operations.
  - (3) Take necessary management actions, including the assurance that budget proposals for their assigned functions provide adequately for protection requirements.
  - (4) Assure that applicable requirements are included in appropriate contracts and that these requirements are implemented and enforced.
  - (5) Give due consideration in the selection of contractors to the ability of offerors to meet environmental protection, safety, and health protection requirements.
  - (6) Appraise the programs of subordinate field activities (operated either by Federal employees or by contractors) in accordance with DOE 5482.1 and initiate remedial actions as appropriate.
  - (7) Execute programs and assure that contractors and their subcontractors execute programs and policies in a manner that shall include compliance with prescribed requirements relating to environmental protection, safety and health protection.
  - (8) Establish procedures to assure that required information is recorded and reported as prescribed by this order.

- (9) Establish and maintain liaison with regional, state, or local officials as appropriate, and advise the Assistant Secretary for Environment of environmental protection, safety, and health protection requirements issued by these officials that will affect DOE operations.
  - (10) Grant exceptions to, and process requests for, variances from occupational safety and health standards in accordance with DOE 5483.1.
  - (11) Assure that safety analyses of DOE operations are prepared and reviewed in accordance with DOE 5481.1.
- b. The Assistant Secretary for Environment is responsible for providing an independent overview of the environmental protection, safety, and health protection program as it applies to the Department's operations and is directly responsible to the Secretary for this function. In carrying out this function the Assistant Secretary for Environment:
- (1) Develops policies, standards, guides, requirements, and procedures covering environmental protection, safety, and health protection programs within DOE operations, including those on notification, investigation, and reporting of occurrences having environmental protection, safety, or health protection significance.
  - (2) Provides technical advice and assistance concerning environmental protection, safety, and health protection programs to line organizations.
  - (3) Provides a central point for coordination within DOE and with other agencies and other groups in the development of environmental protection, safety, and health protection standards and requirements and resolution of operational issues applicable to DOE operations, including review of proposed standards and requirements for their application to and potential impact on DOE activities, and participation in the development and review of general design criteria.

- (4) Reviews, and recommends appropriate actions on, reports and documents either originating in Headquarters or that are required to be reviewed in Headquarters by pertinent DOE orders, when those items may have environmental protection, safety, or health protection implications.
- (5) Conducts appraisals in accordance with DOE 5482.1.
- (6) Identifies needs for research and development to support environmental protection, safety, and health protection programs and recommends appropriate actions.
- (7) Provides a central point for the collection, retention, evaluation and dissemination of information having environmental protection, safety, and health protection significance.
- (8) Renders interpretations of this order and its chapters, and grants exemptions from their requirements and standards.
- (9) Provides assurance that safety analyses are prepared and reviewed in accordance with DOE 5481.1.
- (10) Approves requests for variances from occupational safety and health standards in accordance with DOE 5483.1.
- (11) Delegates to the Director, Operational and Environmental Safety Division, the authority to carry out responsibilities (1) through (9) above, except as set forth in paragraph 7c.

c. The Director of Administration shall:

- (1) Be responsible for developing policies and procedures for, and providing overview of, the DOE Federal Employees Occupational Safety and Health program (including the provision of medical services). These efforts are to be consistent with E.O. 11807, Department of Labor policies, and applicable DOE requirements, standards, and guides.
- (2) Act as the Department's designated safety and health official for dealings with the Department of Labor on Federal employee safety and health matters.

- (3) Carry out all of the environmental protection, safety, and health protection responsibilities appropriate to line management responsibility for the operation of Headquarters facilities.
  
- d. Headquarters staff organizations shall give due consideration to the program elements, as identified in Attachment 2, in carrying out their responsibilities, including obtaining reviews and advice from the Assistant Secretary for Environment and the Director of Administration as appropriate.



*Charles W. Duncan, Jr.*  
Charles W. Duncan, Jr.  
Secretary

REFERENCES

Pending the issuances of supplementary chapters to this order, the following may be used as guideline procedures and standards in the discharge of the Department's environmental protection, safety, and health protection program.

1. ERDAM 0502, NOTIFICATION, INVESTIGATION, AND REPORTING OF OCCURRENCES (Provides for timely notification, investigation, and reporting of occurrences to responsible officials.)
2. ERDAM 0510, PREVENTION, CONTROL, AND ABATEMENT OF AIR AND WATER POLLUTION (EO 12088).
3. ERDAM 0511, RADIOACTIVE WASTE MANAGEMENT (Minimize radioactive exposure and associated risk to man and environment.)
4. ERDAM 0513, EFFLUENT AND ENVIRONMENTAL MONITORING AND REPORTING (To determine compliance with environmental protection standards and to determine the effectiveness of effluent treatment and control, environmental protection, and efforts to achieve levels of radioactivity which are as low as reasonably achievable.)
5. ERDAM 0524, STANDARDS FOR RADIATION PROTECTION (Assure that radiation exposure to individuals and population groups is limited to the lowest levels reasonably achievable.)
6. ERDAM 0525, OCCUPATIONAL RADIATION EXPOSURE INFORMATION (Gather information to determine that radiation doses to individuals are maintained at the lowest levels technically and economically practicable.)
7. ERDAM 0527, RESPONSE TO ACCIDENTS INVOLVING NUCLEAR WEAPONS IN THE CUSTODY OF THE DOD (AEC-DOD Memorandum of Understanding, of 6-10-70.)
8. ERDAM 0528, CONTRACTOR OCCUPATIONAL MEDICAL PROGRAM (Protect contractor employees against health hazards in their work environment.)
9. ERDAM 0529, SAFETY STANDARDS FOR THE PACKAGING OF FISSILE AND OTHER RADIOACTIVE MATERIALS (Assurance of the protection of the public health and safety during transportation of such materials.)
10. ERDAM 0530, NUCLEAR CRITICALITY SAFETY (Protect the health and safety of the public and of Government and contractor personnel working in plants that handle fissionable materials.)



11. ERDAM 0531, SAFETY OF NONREACTOR NUCLEAR FACILITIES (Assure that identifiable risks are no greater than those for comparable licensed nuclear facilities.)
12. ERDAM 0540, SAFETY OF AEC-OWNED REACTORS (Assure adequate health and safety protection during reactor operation and related activities.)
13. ERDAM 0545, NUCLEAR ACCIDENT DOSIMETRY PROGRAM (Determine the radiation dose of personnel who may be exposed as a result of a nuclear accident.)
14. ERDAM 0550, OPERATIONAL SAFETY STANDARDS (Assure that all aspects of operations are conducted in accordance with specifically identified operational safety standards.)
15. ERDAM 0552, FIRE PROTECTION (Assure that fires and related perils will not result in hazardous exposure of the public and employees, unacceptable impairment to operations, or excessive damage to or loss of Government property.)

ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION  
PROGRAM ELEMENTS

The following elements establish the general framework for the environmental protection, safety, and health protection program.

1. Statutory Basis.

- a. Assurance that applicable Federal, state, and local environmental protection, safety, and health protection statutes and regulations are met.
- b. Fulfillment of Federal requirements such as those of the Clean Water Act, the Endangered Species Act, the Toxic Substances Control Act, and the Energy Supply and Environmental Coordination Act.

2. Policy and Implementation.

- a. Establishment and interpretation of environmental protection, safety, and health protection program policy and requirements.
- b. Development, adoption, and application of codes, standards, and guides.
- c. Assignment of responsibilities to DOE elements.
- d. Execution of appropriate environmental protection, safety, and health protection contractual requirements in Government-owned, contractor-operated and other type contracts.
- e. Funding support by line organizations to support environmental protection, safety, and health protection needs.
- f. Provision of safety and health services for Federal employees.
- g. Establishment and maintenance of an emergency response capability.
- h. Support of training programs.
- i. Support of operational environmental protection, safety, and health protection research.

3. Hazard and Risk Assessment and Systems Safety.

- a. Application of systems safety principles to DOE activities.
- b. Implementation of quality and reliability assurance programs.
- c. Analysis of activities to identify hazards and assess risks.
- d. Analysis of the adequacy of risk-limiting mechanisms.
- e. Documented acceptance of residual risks by the appropriate level of management.
- f. Conduct of hazardous operations under written procedures appropriate for the level of hazard involved.
- g. Investigation of accidents and incidents to determine causal factors and provide feedback to improve performance.

4. Internal Audit and Appraisal.

- a. Implementation of an internal audit program at the first level of operations.
- b. Implementation of an independent appraisal mechanism at the various levels of the DOE or contractor system.

5. Information and Reporting.

- a. Collection, evaluation, and dissemination of environmental protection, safety, and health protection information.
- b. Public reporting of DOE performance data.