

United States Government

Department of Energy  
Richland Operations Office**memorandum**

DATE: JUN 12 2001

REPLY TO  
ATTN OF: ERD:OCR/01-ERD-085

SUBJECT: CERTIFICATION OF COMPLIANCE OF THE ENVIRONMENTAL RESTORATION  
DISPOSAL FACILITY (ERDF) PER DOE ORDER 435.1

TO: M. W. Frei, Deputy Assistant Secretary  
for Project Completion, EM-40, HQ

This memorandum certifies compliance of the ERDF as required in DOE Order and Manual 435.1-1, I.2.F (5). This certification is based on Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Record of Decision (ROD) "U.S. DOE Hanford Environmental Restoration Disposal Facility" crosswalk documents (00-ERD-135, and 01-ERD-049).

In accordance with DOE M 435.1-1, I.2.F (5), you are requested to issue a disposal authorization for this facility to operate under the CERCLA ROD and related documentation cited in the attached crosswalk.

If you have questions, you may contact me, or your staff may contact Owen Robertson, Environmental Restoration Division on (509) 376-7167.



Keith A. Klein  
Manager

## Attachments:

1. DOE O 435.1
2. DOE M 435.1-1
3. 00-ERD-135 Memorandum 55195
4. EM-30 (R. Bradley, 301-903-7646) Memorandum 55196
5. 01-ERD-049 Memorandum 55197
6. ERDF ROD 48473

cc w/attachs:  
Admin Record (ERDF)

# U.S. Department of Energy

Washington, D.C.

# ORDER

DOE O 435.1

Approved: 7-09-99

Review: 7-09-01

## **SUBJECT: RADIOACTIVE WASTE MANAGEMENT**

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1. **OBJECTIVE.** The objective of this Order is to ensure that all Department of Energy (DOE) radioactive waste is managed in a manner that is protective of worker and public health and safety, and the environment.
2. **CANCELLATION.** This Order cancels DOE 5820.2A, RADIOACTIVE WASTE MANAGEMENT, dated 9-26-88. Cancellation of that Order does not, by itself, modify or otherwise affect any contractual obligation to comply with the Order. The provisions of this canceled Order which have been incorporated by reference in a contract shall remain in effect until the contract is modified.
3. **APPLICABILITY.**
  - a. **DOE Elements.** This Order applies to all DOE elements except as stated in item "d."
  - b. **Radioactive Waste.** Except as stated in item "d," this Order applies to the management of:
    - (1) All high-level waste, transuranic waste, and low-level waste, including the radioactive component of mixed waste, for which DOE is responsible;
    - (2) DOE accelerator-produced radioactive waste; and
    - (3) If managed at DOE low-level waste facilities, byproduct materials as defined by section 11e.(2) of the *Atomic Energy Act of 1954*, as amended, or naturally occurring radioactive materials.
  - c. **Contractors.** The Contractor Requirements Document, Attachment 1, sets forth requirements to be applied to contractors performing work that involves management of DOE radioactive waste at DOE-owned or leased facilities. Contractor compliance with the Contractor Requirements Document will be required to the extent set forth in a contract.

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**Distribution:**  
All Departmental Elements

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**Initiated By:**  
Office of Environmental Management

- d. Exemptions. This Order does not apply to certain DOE programs, facilities, or activities as described below.
- (1) This Order does not apply to activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Department of Energy *National Security and Military Applications of Nuclear Energy Authorization Act of 1985*, Public Law 98-525.
  - (2) Requirements in this Order that overlap or duplicate requirements of the Nuclear Regulatory Commission (NRC) related to radiation protection, nuclear safety (including quality assurance), and safeguards and security of nuclear material, do not apply to the design, construction, operation, and decommissioning of Office of Civilian Radioactive Waste Management facilities as defined in DOE O 250.1, *Civilian Radioactive Waste Management Facilities – Exemptions from Departmental Orders*.
  - (3) Requirements in this Order that duplicate or conflict with requirements of NRC or an Agreement State do not apply to facilities and activities licensed by the NRC or an Agreement State.
  - (4) Requirements in this Order that duplicate or conflict with the *Waste Isolation Pilot Plant Land Withdrawal Act of 1992*, as amended, Public Law 102-579, including the U.S. EPA's Possessive Certification of the WIPP pursuant to this Act, do not apply to the operation of the Waste Isolation Pilot Plant or the disposal of waste therein.
  - (5) Unless managed in a low-level waste facility, requirements in this Order do not apply to byproduct material as defined in section 11e.(2) of the *Atomic Energy Act of 1954*, as amended, or naturally occurring radioactive material.
  - (6) This Order does not apply to either spent nuclear fuel or non-waste materials.
  - (7) Upon request or on its own initiative, DOE may grant exemptions from the requirements of this Order in accordance with the process provided by DOE M 251.1-1A, *Directives System Manual*, as applicable.

#### 4. REQUIREMENTS.

- a. DOE radioactive waste management activities shall be systematically planned, documented, executed, and evaluated.
- b. Radioactive waste shall be managed to:

- (1) Protect the public from exposure to radiation from radioactive materials. Requirements for public radiation protection are in DOE 5400.5, *Radiation Protection of the Public and the Environment*.
  - (2) Protect the environment. Requirements for environmental protection are in DOE 5400.1, *General Environmental Protection Program*, and DOE 5400.5, *Radiation Protection of the Public and the Environment*.
  - (3) Protect workers. Requirements for radiation protection of workers are in 10 CFR Part 835, *Occupational Radiation Protection*; requirements for industrial safety are in DOE O 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*.
  - (4) Comply with applicable Federal, State, and local laws and regulations. These activities shall also comply with applicable Executive Orders and other DOE directives.
- c. All radioactive waste shall be managed in accordance with the requirements in DOE M 435.1-1, *Radioactive Waste Management Manual*.
- d. DOE, within its authority, may impose such requirements, in addition to those established in this Order, as it deems appropriate and necessary to protect the public, workers, and the environment, or to minimize threats to property.
5. **RESPONSIBILITIES.** All DOE elements as specified in 3.a are responsible for implementing the requirements of this Order. See DOE M 435.1-1, *Radioactive Waste Management Manual*, for specific responsibilities.
6. **REFERENCES.** DOE M 435.1-1, *Radioactive Waste Management Manual* of 7-09-99 and DOE G 435.1-1, *Implementation Guide for DOE M 435.1-1*.
7. **CONTACT.** Questions concerning this Order should be addressed to the Office of Waste Management at (202) 586-0370.

BY ORDER OF THE SECRETARY OF ENERGY:



THOMAS T. TAMURA  
Acting Director of  
Management and Administration

## CONTRACTOR REQUIREMENTS DOCUMENT

1. In the performance of this contract, the contractor is required to:
  - A. Systematically plan, document, execute, and evaluate the management of DOE radioactive waste and assist the government in planning, executing and evaluating the management of DOE radioactive waste in accordance with the requirements of DOE O 435.1, *Radioactive Waste Management*.
  - B. Assist the government in managing DOE radioactive waste so as to:
    - (1) Protect the public from exposure to radiation from radioactive materials.
    - (2) Protect the environment.
    - (3) Protect workers including following requirements for radiation protection.
  - C. Assist DOE in meeting its obligations and responsibilities under Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, and Executive Order 13101, *Greening the Government through Waste Prevention, Recycling, and Federal Acquisition*, and *The Pollution Prevention Act of 1990*.
  - D. Comply with the requirements in DOE M 435.1-1, *Radioactive Waste Management Manual*, unless such activities are specifically exempted by DOE O 435.1, Section 3.d., as described below.
    - (1) Activities conducted under the authority of the Director, Naval Nuclear Propulsion Program, as described in Department of Energy *National Security and Military Applications of Nuclear Energy Authorization Act of 1985*, Public Law 98-525.
    - (2) Requirements that overlap or duplicate requirements of the Nuclear Regulatory Commission (NRC) related to radiation protection, nuclear safety (including quality assurance), and safeguards and security of nuclear material, do not apply to the design, construction, operation, and decommissioning of Office of Civilian Radioactive Waste Management facilities as defined in DOE O 250.1, *Civilian Radioactive Waste Management Facilities – Exemptions from Departmental Orders*.

- (3) Requirements that duplicate or conflict with requirements of NRC or an Agreement State do not apply to facilities and activities licensed by the NRC or an Agreement State.
  - (4) Requirements that duplicate or conflict with the *Waste Isolation Pilot Plant Land Withdrawal Act of 1992*, as amended, Public Law 102-579, do not apply to the operation of the Waste Isolation Pilot Plant or the disposal of waste therein.
  - (5) Unless managed in a low-level waste facility, requirements in DOE O 435.1 do not apply to byproduct material as defined in section 11e.(2) of the *Atomic Energy Act of 1954*, as amended, or naturally occurring radioactive material.
  - (6) Spent nuclear fuel or non-waste materials.
  - (7) Upon request or on its own initiative, DOE may grant exemptions from the requirements of DOE O 435.1 in accordance with the process provided by DOE M 251.1-1A, *Directives System Manual*.
- E. Incorporate these requirements into the contracts of all sub-contractors which are involved in the management of DOE radioactive waste.

## CHAPTER I

### GENERAL REQUIREMENTS AND RESPONSIBILITIES

#### 1. REQUIREMENTS

- A. Delegation of Authority. Managers charged with responsibilities within this Manual may delegate authority for these tasks to another manager. All delegations of authority shall be documented.
- B. Use of Guidance. Additional information supporting the requirements in this Manual is contained in the Implementation Guide for use with DOE M 435.1-1, *Radioactive Waste Management Manual*. This Guide, DOE G 435.1-1, *Implementation Guide for DOE M 435.1-1*, shall be reviewed when implementing the requirements of this Manual. The Guide provides additional information and acceptable methods for meeting the requirements. Other methods may be used but must ensure an adequate level of safety commensurate with the hazards associated with the work and be consistent with the radioactive waste management basis.
- C. Radioactive Waste Management. All radioactive waste subject to DOE O 435.1, *Radioactive Waste Management*, and the requirements of this Manual shall be managed as high-level waste, transuranic waste, low-level waste, or mixed low-level waste.
- D. Analysis of Environmental Impacts. Existing and proposed radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 1021, *National Environmental Policy Act Implementing Procedures*; and DOE O 451.1A, *National Environmental Policy Act Compliance Program*. All reasonable alternatives shall be considered, as appropriate. Nothing in this Order is meant to restrict consideration of alternatives to proposed actions.
- E. Requirements of Other Regulations and DOE Directives. The following requirements and DOE directives are required for all DOE radioactive waste management facilities, operations, and activities as applicable. Any of the requirements for the following Departmental directives may be waived or modified through application of a DOE-approved requirements tailoring process, such as the "Necessary and Sufficient Closure Process" in DOE P 450.3 and DOE M 450.3-1 and DOE P 450.4, *Safety Management System Policy*, or by an exemption processed in accordance with the requirements of that directive or DOE M 251.1-1A, *Directives System Manual*.

- (1) **Analysis of Operations Information.** Data that measure the environment, safety, and health performance of radioactive waste management facilities, operations, and activities shall be identified, collected, and analyzed as required by DOE O 210.1, *Performance Indicators and Analysis of Operations Information*.
- (2) **Classified Waste.** Radioactive waste to which access has been limited for national security reasons and cannot be declassified shall be managed in accordance with the requirements of DOE 5632.1C, *Protection and Control of Safeguards and Security Interests*, and DOE 5633.3B, *Control and Accountability of Nuclear Materials*.
- (3) **Conduct of Operations.** Radioactive waste management facilities, operations, and activities shall be conducted in a manner based on consideration of the associated hazards. Waste management facilities, operations, and activities shall meet the requirements of DOE 5480.19, *Conduct of Operations Requirements for DOE Facilities*.
- (4) **Criticality Safety.** Radioactive waste management facilities, operations, and activities shall be covered by a criticality safety program in accordance with DOE O 420.1, *Facility Safety*.
- (5) **Emergency Management Program.** Radioactive waste management facilities, operations, and activities shall maintain an emergency management program in accordance with DOE O 151.1, *Comprehensive Emergency Management System*.
- (6) **Environmental and Occurrence Reporting.** Radioactive waste management facilities, operations, and activities shall meet the reporting requirements of DOE O 231.1, *Environment, Safety and Health Reporting*, and DOE O 232.1A, *Occurrence Reporting and Processing of Operations Information*.
- (7) **Environmental Monitoring.** Radioactive waste management facilities, operations, and activities shall meet the environmental monitoring requirements of DOE 5400.1, *General Environmental Protection Program*, and DOE 5400.5, *Radiation Protection of the Public and the Environment*.
- (8) **Hazard Analysis Documentation and Authorization Basis.** Radioactive waste management facilities, operations, and activities shall implement DOE Standards, DOE-STD-1027-92, *Hazard Categorization and*

*Accident Analysis Techniques for Compliance with DOE 5480.23, Nuclear Safety Analysis Reports, and/or DOE-EM-STD-5502-94, DOE Limited Standard: Hazard Baseline Documentation, and shall, as applicable, prepare and maintain hazard analysis documentation and an authorization basis as required by DOE O 425.1A, Startup and Restart of Nuclear Facilities, DOE O 5480.21, Unreviewed Safety Questions, DOE 5480.22, Technical Safety Requirements, and DOE 5480.23, Nuclear Safety Analysis Reports.*

- (9) **Life-Cycle Asset Management.** Planning, acquisition, operation, maintenance, and disposition of radioactive waste management facilities shall be in accordance with DOE O 430.1A, *Life-Cycle Asset Management*, and DOE 4330.4B, *Maintenance Management Program*, including a configuration management process to ensure the integrity of physical assets and systems. Corporate physical asset databases shall be maintained as complete, current inventories of physical assets and systems to allow reliable analysis of existing and potential hazards to the public and workers.
- (10) **Mixed Waste.** Radioactive waste that contains both source, special nuclear, or by-product material subject to the *Atomic Energy Act of 1954*, as amended, and a hazardous component is also subject to the *Resource Conservation and Recovery Act (RCRA)*, as amended.
- (11) **Packaging and Transportation.** Radioactive waste shall be packaged and transported in accordance with DOE O 460.1A, *Packaging and Transportation Safety*, and DOE O 460.2, *Departmental Materials Transportation and Packaging Management*.
- (12) **Quality Assurance Program.** Radioactive waste management facilities, operations, and activities shall develop and maintain a quality assurance program that meets the requirements of 10 CFR 830.120, *Quality Assurance Requirements*, and DOE O 414.1, *Quality Assurance*, as applicable.
- (13) **Radiation Protection.** Radioactive waste management facilities, operations, and activities shall meet the requirements of 10 CFR Part 835, *Occupational Radiation Protection*, and DOE 5400.5, *Radiation Protection of the Public and the Environment*.
- (14) **Records Management.** Radioactive waste management facilities, operations, and activities shall develop and maintain a record-keeping system, as required by DOE O 200.1, *Information Management Program*,

and DOE O 414.1, *Quality Assurance*. Records shall be established and maintained for radioactive waste generated, treated, stored, transported, or disposed. To the extent possible, records prepared in response to other requirements may be used to satisfy the documentation requirements of this Manual. Additional records may be required to satisfy the regulations applicable to the hazardous waste components of mixed waste.

- (15) **Release of Waste Containing Residual Radioactive Material.** Processes for determining and documenting that waste is suitable to be released and managed without regard to its radioactive content shall be in accordance with the criteria and requirements in DOE 5400.5, *Radiation Protection of the Public and the Environment*.
- (16) **Safeguards and Security.** Appropriate features shall be incorporated into the design and operation of radioactive waste management facilities, operations, and activities to prevent unauthorized access and operations, and for purposes of nuclear materials control and accountability, where applicable; and shall be consistent with DOE O 470.1, *Safeguards and Security Program*.
- (17) **Safety Management System.** Radioactive waste management facilities, operations, and activities shall incorporate the principles of integrated safety management as described in DOE P 450.4, *Safety Management System Policy*, and DOE P 450.5, *Line Environment, Safety and Health Oversight*, and meet the requirements of the safety management systems sections of 48 CFR Chapter 9, *Department of Energy Acquisition Regulations* and DOE M 411.1-1, *Manual of Safety Management Functions, Responsibilities, and Authorities*.
- (18) **Site Evaluation and Facility Design.** New radioactive waste management facilities, operations, and activities shall be sited and designed in accordance with DOE O 420.1, *Facility Safety*, and DOE O 430.1A, *Life-Cycle Asset Management*.
- (19) **Training and Qualification.** A training and qualification program shall be implemented for radioactive waste management program personnel, and shall meet the requirements of DOE O 360.1, *Training*, and DOE 5480.20A, *Personnel Selection, Qualification, and Training Requirements for DOE Nuclear Facilities*.
- (20) **Waste Minimization and Pollution Prevention.** Waste minimization and pollution prevention shall be implemented for radioactive waste

management facilities, operations, and activities to meet the requirements of Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*, and Executive Order 13101, *Greening the Government through Waste Prevention, Recycling, and Federal Acquisition*, and DOE 5400.1, *General Environmental Protection Program*.

- (21) **Worker Protection.** Radioactive waste management facilities, operations, and activities shall meet the requirements of DOE O 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*.

## 2. RESPONSIBILITIES

- A. Program Secretarial Officers. Program Secretarial Officers with radioactive waste management facilities, operations, or activities are responsible within their respective programs for ensuring that the Field Element Managers meet the requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual.
- B. Assistant Secretary for Environmental Management. The Assistant Secretary for Environmental Management is responsible for:
- (1) **Complex-Wide Radioactive Waste Management Programs.** Establishing and maintaining integrated Complex-Wide Radioactive Waste Management Programs for high-level, transuranic, low-level, and mixed low-level waste. These programs shall use a systematic approach to planning, execution, and evaluation to ensure that waste generation, storage, treatment, and disposal needs are met and coordinated across the DOE complex.
- (2) **Changes to Regulations and DOE Directives.** Ensuring changes to regulations and DOE directives are reviewed and, when necessary, incorporated into revisions of this Manual to ensure the basis for safe radioactive waste management facilities, operations, and activities is maintained.
- C. Assistant Secretary for Environment, Safety, and Health. The Assistant Secretary for Environment, Safety and Health is responsible for providing an independent overview of DOE radioactive waste management and decommissioning programs to determine compliance with DOE environment, safety, and health requirements and applicable Environmental Protection Agency (EPA) and state regulations, including:

- (1) Advising the Secretary of the status of Departmental compliance with the requirements of DOE O 435.1, this Manual, and applicable provisions of other DOE Orders.
- (2) Conducting independent appraisals and audits of DOE waste management programs.
- (3) Reviewing site Waste Management Plans with regard to compliance with DOE environment, safety, and health requirements.

D. Deputy Assistant Secretary for Waste Management. The Deputy Assistant Secretary for Waste Management is responsible for:

- (1) **Complex-Wide Radioactive Waste Management Program Plans.** Developing, implementing, and maintaining integrated Complex-Wide Radioactive Waste Management Program Plans for high-level, transuranic, low-level, and mixed low-level waste. Each plan shall, at the DOE complex-wide level, describe the functional elements, organizations, responsibilities, and activities that comprise the system needed to store, treat and dispose of radioactive waste in a manner that is protective of the public, workers, and the environment. In addition, the plans shall:
  - (a) Present a waste management strategy that integrates waste projections and life-cycle waste management planning into complex-wide facility configuration decisions; and
  - (b) Describe the approach to research and technology development being pursued to improve safety and/or efficiency in managing radioactive waste.
- (2) **Waste Management Data System.** Establishing and maintaining a system to compile waste generation projection data and other information concerning radioactive waste management facilities, operations, and activities across the complex.

E. Deputy Assistant Secretaries for Waste Management and Environmental Restoration. The Deputy Assistant Secretary for Waste Management and the Deputy Assistant Secretary for Environmental Restoration are responsible for:

- (1) **Disposal.** Reviewing and approving, along with EH-1, transuranic waste disposal facility performance assessments and other disposal documents as required in waste specific chapters for which DOE is responsible for

making compliance determinations. Reviewing and approving performance assessments and composite analyses, or appropriate CERCLA documentation, for low-level waste disposal facilities, and issuing disposal authorization statements.

- (a) The Deputy Assistant Secretaries shall establish a review panel consisting of DOE personnel to review low-level waste disposal facility performance assessments and composite analyses, review appropriate CERCLA documentation, recommend low-level waste disposal facility compliance determinations to the Deputy Assistant Secretaries, and develop disposal authorization statements.
  - (b) The Deputy Assistant Secretaries shall issue disposal authorization statements containing conditions that low-level waste disposal facilities must meet in order to operate with an approved radioactive waste management basis.
- (2) **Site Closure Plans.** Reviewing and approving closure plans and other closure documentation for deactivated high-level waste facilities/sites and issuing authorization for closure activities to proceed.

F. Field Element Managers. Field Element Managers are responsible for:

- (1) **Site-Wide Radioactive Waste Management Programs.** Developing, documenting, implementing, and maintaining a Site-Wide Radioactive Waste Management Program. The Program shall use a systematic approach for planning, executing, and evaluating the site-wide management of radioactive waste in a manner that supports the Complex-Wide Radioactive Waste Management Programs and ensures that the requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual are met.
- (2) **Radioactive Waste Management Basis.** Ensuring a radioactive waste management basis is developed and maintained for each DOE radioactive waste management facility, operation, and activity; and ensuring review and approval of the basis before operations begin. The Radioactive Waste Management Basis shall:
  - (a) Reference or define the conditions under which the facility may operate based on the radioactive waste management documentation;

- (b) Include the applicable elements identified in the specific waste-type chapters of this Manual; and
  - (c) Be developed using the graded approach process.
- (3) **Waste Minimization and Pollution Prevention.** Ensuring implementation of waste minimization and pollution prevention programs.
- (4) **Approval of Exemptions for Use of Non-DOE Facilities.** DOE radioactive waste shall be treated, stored, and in the case of low-level waste, disposed of at the site where the waste is generated, if practical; or at another DOE facility. If DOE capabilities are not practical or cost effective, exemptions may be approved to allow use of non-DOE facilities for the storage, treatment, or disposal of DOE radioactive waste based on the following requirements:
- (a) Such non-DOE facilities shall:
    - 1. Comply with applicable Federal, State, and local requirements;
    - 2. Have the necessary permit(s), license(s), and approval(s) for the specific waste(s); and
    - 3. Be determined by the Field Element Manager to be acceptable based on a review conducted annually by DOE.
  - (b) Exemptions for the use of non-DOE facilities shall be documented to be cost effective and in the best interest of DOE, including consideration of alternatives for on-site disposal, an alternative DOE site, and available non-DOE facilities; consideration of life-cycle cost and potential liability; and protection of public health and the environment.
  - (c) DOE waste shall be sufficiently characterized and certified to meet the facility's waste acceptance criteria.
  - (d) Appropriate *National Environmental Policy Act* (NEPA) review must be completed. For actions taken under the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), it is DOE's policy to incorporate NEPA values into the CERCLA documentation.

- (e) Headquarters shall be notified of any exemption allowing use of a non-DOE facility and the Office of the Assistant Secretary for Environment, Safety and Health (EH-1) shall be consulted prior to the exemption being executed.
  - (f) Host States and State Compacts where non-DOE facilities are located shall be consulted prior to approval of an exemption to use such facilities and notified prior to shipments being made.
- (5) **Environmental Restoration, Decommissioning, and Other Cleanup Waste.** Ensuring the management and disposal of radioactive waste resulting from environmental restoration activities, including decommissioning, meet the substantive requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual. Environmental restoration activities using the CERCLA process (in accordance with Executive Order 12580) may demonstrate compliance with the substantive requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual (including the Performance Assessment and performance objectives, as well as the Composite Analysis) through the CERCLA process. However, compliance with all substantive requirements of DOE O 435.1 not met through the CERCLA process must be demonstrated. Environmental restoration activities which will result in the off-site management and disposal of radioactive waste must meet the applicable requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual for the management and disposal of those off-site wastes. Field Elements performing environmental restoration activities involving development and management of radioactive waste disposal facilities under the CERCLA process shall:
- (a) Submit certification to the Deputy Assistant Secretary for Environmental Restoration that compliance with the substantive requirements of DOE O 435.1 have been met through application of the CERCLA process; and
  - (b) Submit the decision document, such as the Record of Decision, or any other document that serves as the authorization to dispose, to the Deputy Assistant Secretary for Environmental Restoration for approval.
- (6) **Radioactive Waste Acceptance Requirements.** Ensuring development, review, approval, and implementation of the radioactive waste acceptance requirements for facilities that receive waste for storage, treatment, or

disposal. Radioactive waste acceptance requirements shall establish the facility's requirements for the receipt, evaluation, and acceptance of waste.

- (7) **Radioactive Waste Generator Requirements.** Ensuring development, review, approval, and implementation of a program for waste generation planning, characterization, certification, and transfer. This program shall address characterization of waste, preparation of waste for transfer, certification that waste meets the receiving facility's radioactive waste acceptance requirements, and transfer of waste.
- (8) **Closure Plans.** Ensuring development, review, approval, and implementation of closure plans for radioactive waste management facilities in accordance with the applicable requirements in the waste-type chapters of this Manual.
- (9) **Defense-In-Depth.** Ensuring defense-in-depth principles are incorporated where potential uncertainties or vulnerabilities warrant their use when reviewing and approving radioactive waste management activities and documents. These principles advocate the use of multiple levels of engineered and administrative controls to provide protection to the public, workers, and the environment.
- (10) **Oversight.** Ensuring oversight of radioactive waste management facilities, operations, and activities is conducted. Oversight shall ensure radioactive waste management program activities are conducted in accordance with a radioactive waste management basis and meet the requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual.
- (11) **Training and Qualification.** Ensuring a training and qualification program is implemented for designated radioactive waste management program personnel, and the training is commensurate with job duties and responsibilities. Only those personnel who have been trained and qualified shall design or operate safety (safety class and safety significant) structures, systems, and components.
- (12) **As Low As Reasonably Achievable (ALARA).** Ensuring ALARA principles for radiation protection are incorporated when reviewing and approving radioactive waste management activities.
- (13) **Storage.** Ensuring all radioactive waste is stored in a manner that protects the public, workers, and the environment in accordance with a radioactive waste management basis, and that the integrity of waste storage is

maintained for the expected time of storage and does not compromise meeting the disposal performance objectives for protection of the public and environment when the waste is disposed.

- (14) **Treatment.** Ensuring all radioactive waste requiring treatment is treated in a manner that protects the public, workers, and the environment and in accordance with a radioactive waste management basis.
- (15) **Disposal.** Ensuring radioactive waste is disposed in a manner that protects the public, workers, and the environment and in accordance with a radioactive waste management basis. Reviewing specific transuranic or low-level waste documentation including the performance assessment and composite analysis, or appropriate CERCLA documentation, prior to forwarding them to Headquarters for approval, and obtaining and ensuring the facility is operated in accordance with the disposal authorization statement. Conducting performance assessment and composite analysis maintenance.
- (16) **Monitoring.** Ensuring monitoring is conducted for all radioactive waste management facilities as required. Ensuring that disposal facilities are monitored, as appropriate, for compliance with conditions of the disposal authorization statement.
- (17) **Material and Waste Declassification for Waste Management.** Ensuring, to the extent practical, radioactive material and waste generated under a program that is classified for national security reasons is declassified or rendered suitable for unclassified radioactive waste management.
- (18) **Waste Incidental to Reprocessing.** Ensuring that waste incidental to reprocessing determinations are made by either the "citation" or "evaluation" process described in Chapter II of this Manual. Ensuring consultation and coordination with the Office of Environmental Management for waste determined to be incidental to reprocessing through the "evaluation" process.
- (19) **Waste With No Identified Path to Disposal.** Ensuring a process is developed and implemented for identifying the generation of radioactive waste with no identified path to disposal, and reviewing and approving conditions under which radioactive waste with no identified path to disposal may be generated. Headquarters shall be notified of the decisions to generate a waste with no identified path to disposal.

- (20) **Corrective Actions.** Ensuring a process exists for proposing, reviewing, approving, and implementing corrective actions when necessary to ensure that the requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual are met, and to address conditions that are not protective of the public, workers, or the environment. The process shall allow workers, through the appropriate level of management, to stop or curtail work when they discover conditions that pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.

G. All Personnel. All personnel are responsible for:

- (1) **Problem Identification.** Identifying and reporting radioactive waste management facilities, operations, or activities that do not meet the requirements of DOE O 435.1, *Radioactive Waste Management*, and this Manual, or that pose a threat to the safety of the public, workers, or the environment.
- (2) **Shutdown or Curtailment of Activities.** Stopping or curtailing work, through the appropriate level of management, to prohibit continuation of conditions or activities which pose an imminent danger or other serious hazard to workers or the public, or are not protective of the environment.

## CHAPTER II

### HIGH-LEVEL WASTE REQUIREMENTS

- A. Definition of High-Level Waste. High-level waste is the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation.
- B. Waste Incidental to Reprocessing. Waste resulting from reprocessing spent nuclear fuel that is determined to be incidental to reprocessing is not high-level waste, and shall be managed under DOE's regulatory authority in accordance with the requirements for transuranic waste or low-level waste, as appropriate. When determining whether spent nuclear fuel reprocessing plant wastes shall be managed as another waste type or as high-level waste, either the citation or evaluation process described below shall be used:
- (1) **Citation.** Waste incidental to reprocessing by citation includes spent nuclear fuel reprocessing plant wastes that meet the description included in the Notice of Proposed Rulemaking (34 FR 8712) for proposed Appendix D, 10 CFR Part 50, Paragraphs 6 and 7. These radioactive wastes are the result of reprocessing plant operations, such as, but not limited to: contaminated job wastes including laboratory items such as clothing, tools, and equipment.
  - (2) **Evaluation.** Determinations that any waste is incidental to reprocessing by the evaluation process shall be developed under good record-keeping practices, with an adequate quality assurance process, and shall be documented to support the determinations. Such wastes may include, but are not limited to, spent nuclear fuel reprocessing plant wastes that:
    - (a) Will be managed as low-level waste and meet the following criteria:
      1. Have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical; and
      2. Will be managed to meet safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C, *Performance Objectives*; and