

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

**ORDER**

DOE O 460.2

Approved: 09-27-95  
Review Date: 09-27-97

SUBJECT: DEPARTMENTAL MATERIALS TRANSPORTATION AND  
PACKAGING MANAGEMENT

Chg 1: 10-26-95

1. OBJECTIVE. To establish Department of Energy (DOE) policies and requirements to supplement applicable laws, rules, regulations, and other DOE Orders for materials transportation and packaging operations.
2. CANCELLATION. The Orders listed below are canceled. Cancellation of an Order does not, by itself, modify or otherwise affect any contractual obligation to comply with such an Order. Requirements in the canceled Orders which are incorporated by reference in a contract shall remain in effect until the contract is modified to delete the reference to the canceled Orders.
  - a. DOE 1540.1A, Materials Transportation and Traffic Management, of 7-8-92.
  - b. DOE 1540.2, Hazardous Material Packaging for Transport -Administrative Procedures, of 9-30-86.
  - c. DOE 1540.3A, Base Technology for Radioactive Material Transportation Packaging Systems, of 7-8-92.
3. APPLICABILITY.
  - a. DOE Elements. Except for the exclusions in paragraph 3c, below, this Order applies to all DOE Elements performing or managing the transportation and packaging of offsite (in commerce) materials to be shipped to or from a DOE facility on behalf of DOE.
  - b. Contractors. Except for the exclusions in paragraph 3c, below, the Contractor Requirements Document (CRD), Attachment 1, sets forth requirements that are to be applied to: (1) contractors awarded contracts for the management and operations (M&O) of DOE-owned and -leased facilities and (2) subcontracts thereunder involving materials transportation and packaging operations. The contracting officer shall direct the contractors to comply with the requirements of this Order which are set forth in the CRD at such time as the CRD is incorporated into their contracts. The contracting officer shall direct the contractors to comply with any referenced requirements of Orders canceled by this Order until their contracts are modified to delete the references to the canceled Orders.

Vertical line denotes change.

**DISTRIBUTION:**  
All Departmental Elements

**INITIATED BY:**  
Office of Environmental Management

- c. Excluded from the requirements of this Order are: classified shipments; shipments of complete nuclear explosives, components, and special assemblies (see DOE 5610.12, PACKAGING AND OFFSITE TRANSPORTATION OF NUCLEAR COMPONENTS AND SPECIAL ASSEMBLIES ASSOCIATED WITH THE NUCLEAR EXPLOSIVE AND WEAPON SAFETY PROGRAM, of 7-26-94); and facilities and activities of the Naval Nuclear Propulsion Program (see Executive Order 12344).
- d. 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 (RW) facilities.

4. REQUIREMENTS.

- a. DOE Field Elements shall conduct their operations in compliance with all applicable international, Federal, State, local, and tribal laws, rules, and regulations governing materials transportation which are not inconsistent with Federal regulations, unless exemptions or alternatives are approved in accordance with DOE O 460.1. It is DOE policy that, notwithstanding the exemptions available through the National Security Provision, shipments under this provision will comply with the 49 CFR 106-180 requirements, except those that infringe upon maintenance of classified information.
- b. DOE Field Elements shall ensure that a Transportation Plan consists of information describing material type, shipping dates, estimated number and weight of shipments, mode of transport, carrier proposed route, packaging description, and cargo security arrangements, if required, and submit it to the Office of Environmental Management (EM) with information on shipments of spent nuclear fuel, high-level waste, and high-visibility shipments and campaigns as determined by the cognizant Program Officer (PO). All DOE sites and contractors preparing a Transportation Plan shall use the Prospective Shipments Module (PSM) of the Transportation Information Network (TIN) in the development of their Plan.
- c. DOE Field Elements shall ensure that the DOE Transportation Tracking and Communications (TRANSCOM) System shall be used for tracking and monitoring the following categories of shipments in accordance with the TRANSCOM operations system manuals (controlled documents):
  - (1) Spent nuclear fuel (Reference DOE M 5632.1C-1, Chapter IV);
  - (2) High-level waste; and
  - (3) High-visibility shipments and campaigns as determined by the cognizant Secretarial Officers.

- d. DOE Field Elements shall use the following shipment procedures:
- (1) To the maximum extent practicable, the Automated Transportation Management System (ATMS) shall be utilized to perform transportation tasks.
  - (2) Consistent with the Government's self-insurance policy, DOE Field Elements shall ensure Government funds shall not be expended to insure property against loss, damage, or destruction while in transit, unless qualifying as a "special circumstance" under the procurement regulations.
  - (3) All commercial bills of lading, air bills, and other commercial documents covering shipments made by or to Department contractors on DOE's behalf shall provide for consignment of the shipments to, or from, the:
    - (a) United States Department of Energy "in care of" the Department's contractor, or
    - (b) The Department's contractor "for the United States Department of Energy."
  - (4) Requests, documented as required by Air Force Regulation (AFR) 76-38, for military air transportation service shall be forwarded by DOE Field Elements to EM-1. Requests shall include a certification by the PO or the cognizant Operations or Field Office that such transportation is in the national interest and that commercial air transportation is not readily obtainable or capable of meeting program requirements.
- e. Receipt of Hazardous Materials Shipments.
- (1) DOE Field Elements shall ensure that shipments are inspected upon receipt for damage or loss, and evidence of leakage. Radioactive material shipments shall also be inspected for external surface contamination.
  - (2) If a delivery conveyance is contaminated, the transport vehicle shall be detained and the delivering carrier immediately notified so that other potentially contaminated vehicles can be surveyed.
- f. Shipment Notifications.
- (1) State or Tribal Notifications.
    - (a) Before shipping spent fuel or high-level waste within or through a State or tribal jurisdiction, DOE shall send a return receipt registered letter to the State Governor (or the Governor's designee) and if

necessary, the designated tribal point of contact postmarked at least 7 days before a shipment. Alternatively, DOE may send a notification delivered by messenger to these same representatives at least 4 days before a shipment is transported within or through the State or tribal jurisdiction.

- (b) DOE shall ensure that the State or tribe is notified by telephone of schedule changes that differ more than 6 hours from the information furnished in the written notification in, as required, 4f(1)(a), above. A record shall be retained in the shipping records file that includes the name of the person(s) contacted and the date and time of the contact.

(2) Consignee Notifications.

- (a) For each shipment of fissile or more than Type A quantities of radioactive material, and for *gas poisonous by inhalation* as defined in 49 CFR 173.115(c), the shipper shall notify the consignee of the dates of the shipment, the expected date of arrival, and any special loading or unloading instructions.
  - (b) The DOE consignee shall notify the shipper by the end of the first working day after the estimated arrival date if the shipment has not been received.
- g. DOE Field Elements shall ensure that shipment data is reported to the Shipment Mobility/Accountability Collection (SMAC) automated data system at least monthly. DOE Field Elements excepted from the SMAC reporting requirement shall provide EM-1 with an annual shipment data report for the preceding fiscal year by December 1 of each year.
- h. Transportation Services and Rates.
  - (1) All carriers utilized to transport Highway Route Controlled Quantities (HRCQ) of radioactive materials in less-than-truckload (LTL) or truckload (TL) quantities, any TL quantities of radioactive material, and hazardous waste in any quantity shall be evaluated by DOE Field Elements in accordance with the DOE "Motor Carrier Evaluation Program Plan and Program Procedures." A copy of the evaluation document shall be provided to EM-1 within 45 days of completion of the carrier evaluation.

- (2) Only carrier rates on file with EM-1, DOE Field Elements, other Federal agencies, or a State commission shall be used for shipments by common carriage.
  - (3) When other than low-cost carrier/mode transportation is used, DOE Field Elements shall ensure that a written justification or management approval statement is retained in the appropriate file.
  - i. Before transporting new explosive substances and articles, including devices, made by DOE or under its direction or supervision, the DOE Field Element shall test them and obtain a classification approval from the Albuquerque or Oakland Operations Offices. The DOE Field Element shall provide a copy of the approval and supporting documentation to EM-1 for registration with DOT. EM-1 will then register the explosive with the Department of Transportation (DOT).
  - j. DOE Field Elements shall conduct compliance assessments of transportation and packaging operations no less than every 3 years at each DOE contractor facility in accordance with the EM-1 Technical Compliance Evaluation and Assistance Program.
  - k. Information on reusable radioactive materials packagings in inventory, programmatically excess packagings, newly decertified packagings, new packaging needs, and packagings under development shall be provided to EM-1 by the DOE Field Elements annually no later than January 1, to be included in the DOE Packaging Management Plan.
5. RESPONSIBILITIES.
- a. Assistant Secretary for Environmental Management (EM-1) through the Office of Transportation, Emergency Management, and Analytical Services (EM-26):
    - (1) Establishes policy and guidance for DOE materials transportation and packaging management and assists DOE Elements and contractors on related matters.
    - (2) Represents DOE in matters dealing with transportation and packaging operations with other Federal entities.
    - (3) Coordinates DOE review of, participation in, and comment on international, Federal, State, and local, and tribal transportation and packaging operations regulations.
    - (4) Develops and submits petitions for rulemaking actions concerning transportation and packaging operations related matters.

- (5) Establishes and manages a transportation logistics program that includes the oversight of the DOE Motor Carrier Evaluation Program (MCEP); the negotiation of DOE freight rates and rules; the maintenance of centralized files for MCEP reports, freight rate tenders, and contracts; and interfaces with other Federal and commercial entities on such matters as bill-of-lading audits, requests for military transportation services or equipment, and availability of commercial transport equipment to meet programmatic requirements.
- (6) Develops, implements, and maintains computerized systems to support transportation and packaging management including ATMS, SMAC, and TRANSCOM. Reviews and approves requests for use of the TRANSCOM system and for exceptions or alternatives to ATMS/SMAC reporting.
- (7) Develops and provides initial and recurrent training on domestic and international transportation and packaging regulations, carrier and carrier association rules, and implementing DOE Orders.
- (8) Reviews supporting documentation for explosives classification and files the applications with DOT for registration.
- (9) Conducts technical assessments of DOE Field Elements, including related contractors, and as needed, provides assistance in transportation and packaging management activities to ensure compliance with applicable requirements.
- (10) Conducts formal needs assessments involving DOE Field Elements and contractors to identify and prioritize emerging transportation and packaging needs.
  - (a) Develops and maintains a catalog of packagings used including owner, available inventory, operating and maintenance instructions, and approved contents.
  - (b) Serves as a clearinghouse for redeployment of current, programmatically excess, and decertified packagings.
- (11) Prepares and maintains the DOE's annual Packaging Management Plan and Transportation and Packaging Research and Development Plan, with input on objectives, schedules, roles and responsibilities, and funding sources from all DOE program elements.

b. Program Officers (POs):

- (1) Ensure that DOE Field Elements and contractors under their purview, involved in performing or managing transportation and packaging, fully implement and comply with the requirements of this Order.

- (2) Coordinate program-related transportation plans, proposed transportation computerized systems, transportation systems studies, and packaging development activities; training requirements, reports, and analyses with EM-1 to ensure consistency of policy and avoid duplication of efforts.
  - (3) Designate an individual(s) cognizant of program plans and requirements to serve as the point of contact for transportation and packaging interface(s) and integration of transportation and packaging activities into program planning.
  - (4) Conduct program reviews of transportation and packaging development activities under their purview and participate in the development of the Department's Packaging Management and Transportation Research and Development Plans and Technical Review Board to ensure program needs are being addressed.
- c. Assistant Secretary for Environment, Safety and Health (EH-1):
- (1) Establishes policy and guidance for environmental protection, safety, and health with regard to DOE materials transportation and packaging.
  - (2) Through the Office of Oversight (EH-2), conducts independent oversight of environmental protection, safety, health, and safeguards and security matters.
- d. Assistant Secretary for Human Resources and Administration (HR-1):
- (1) Manages the DOE Headquarters' transportation requirements.
  - (2) Develops appropriate articles for inclusion in contracts and ensures that the provisions of this Order are included in the DOE Procurement Regulations.
- e. Heads of Field Elements:
- (1) Ensure that all DOE Field Elements and contractors under their purview involved in performing or managing transportation and packaging fully implement and comply with the requirements of this Order.
  - (2) Obtain waivers from State, tribal, and local transportation operational requirements, as needed to meet programmatic requirements, and provides copies of all such requests and waivers to EM-1.
  - (3) Issue Price-Anderson indemnity agreement certificates to carriers, upon their request, or notify the requesting carriers and the referring organization, as applicable, that the shipment is not covered by an indemnity agreement. When a licensee

indemnity agreement has been entered into by the Nuclear Regulatory Commission with the consignor or consignee, or when it is not known whether such an indemnity agreement has been entered into, refer requests from carriers for such certifications to the Director of the Nuclear Regulatory Commission Regional Office listed in Appendix D of 10 CFR Part 20.

- (4) Negotiate with carriers, or authorize cost-type contractors to negotiate with carriers, concerning rates, classification ratings, services, and related transportation matters when their own DOE Field Element will be affected.
- (5) Advise other Field Elements, EM-1, and cognizant DOE POs of significant freight rate changes, new or changing State, tribal, or local laws, rules, or regulations (i.e., fees, bans, or petitions).
- (6) Issue Government bills of lading and authorize employees of cost-type contractors to issue Government bills of lading within prescribed limitations.
- (7) Conduct Technical Assessments of site transportation and packaging programs at least every 3 years in accordance with paragraph 4j, above, maintain records of these reviews, and provide timely notice to EM-26 of the need for associated technology for use in transportation and packaging operations and development.
- (8) Shall determine whether to request a contracting officer to incorporate the requirements of the CRD (Attachment 1) into new or existing contracts or whether the requirements of the canceled Orders should remain effective as incorporated into existing contracts in order to provide adequate protection. Heads of Field Elements shall also determine when implementation of the requirements of the CRD (Attachment 1) is sufficient to provide adequate protection and may request the contracting officer to modify the contract to delete the requirements of the canceled Orders.

f. Managers of Albuquerque and Oakland Operations Offices.

- (1) Review and approve requests for classification of new explosives.
- (2) Make preliminary classification determinations of requests for tentative classification of new explosives.
- (3) Transmit two copies of classification approval documents and supporting data to EM-26.



- g. Contracting Officers. If requested by DOE Field Elements, Contracting Officers shall take the necessary steps to incorporate the requirements of the CRD (Attachment 1) into new or existing contracts or to delete the requirements of the canceled Orders from existing contracts. The Contracting Officer shall modify the contract in accordance with the terms and conditions of the contract.
6. CONTACT. Office of Transportation, Emergency Management, and Analytical Services, EM-26, (301) 903-7967 or (301) 903-7273. An optional Implementation Guide, *Departmental Materials Transportation and Packaging Management Implementation Guide* supplements this Order.

BY ORDER OF THE SECRETARY OF ENERGY:

ARCHER L. DURHAM  
Assistant Secretary for  
Human Resources and Administration

CANCELLED

CONTRACTOR REQUIREMENTS DOCUMENT  
DEPARTMENTAL MATERIALS TRANSPORTATION & PACKAGING  
MANAGEMENT

1. The contractor shall conduct its operations in compliance with all applicable international, Federal, State, local, and tribal requirements governing materials transportation unless exemptions or alternatives are approved in accordance with DOE O 460.1. Notwithstanding the exemption available through the National Security Provision, 49 CFR 173.7(b), shipments under this provision will comply with the 49 CFR 106-180 requirements, except those that infringe upon maintenance of classified information.
2. A Transportation Plan shall be prepared by the contractor and submitted to the appropriate Field Element with information on shipments of spent nuclear fuel, high-level waste, and high-visibility shipments and campaigns as determined by the cognizant Program Office (PO). The plan shall consist of information describing material type, shipping dates, estimated number and weight of shipments, mode of transport, carrier proposed route, packaging description, and cargo security arrangements, if required. The contractor, when preparing a Transportation Plan, shall use the Prospective Shipments Module (PSM) of the Transportation Information Network (TIN) in the development of the Plan.
3. The DOE Transportation Tracking and Communications (TRANSCOM) System shall be used by the contractor, in accordance with the TRANSCOM operations system manuals (controlled documents) for tracking and monitoring the following categories of shipments:
  - (a) Spent nuclear fuel (Reference DOE M S632.1C-1, Chapter IV);
  - (b) High-level waste; and
  - (c) High-visibility shipments and campaigns as determined by the cognizant DOE POs.
4. Shipment Procedures.
  - (a) To the maximum extent practicable, the contractor shall utilize the Automated Transportation Management System (ATMS) to perform transportation tasks.
  - (b) Consistent with the Government's self-insurance policy, the contractor shall not expend Government funds to insure property against loss, damage, or destruction while in transit, unless qualifying as a "special circumstances under the procurement regulations.

- (c) All commercial bills of lading, air bills, and other commercial documents covering shipments made by or to the contractor on DOE's behalf shall provide for consignment of the shipments to, or from, the:
    - (1) United States Department of Energy "in care of" the contractor, or
    - (2) The contractor "for the United States Department of Energy."
  - (d) Requests by the contractors, documented as required by Air Force Regulation (AFR) 76-38, for military air transportation service shall be made to the appropriate Field Element. Requests shall include a certification by the PO or the cognizant Operations or Field Office that such transportation is in the national interest and that commercial air transportation is not readily obtainable or capable of meeting program requirements.
5. Upon receipt of hazardous materials shipments, the contractor shall:
- (a) Inspect for damage or loss and evidence of leakage. In addition, the contractor shall inspect radioactive material shipments for external surface contamination and dose rate.
  - (b) If a delivery conveyance is contaminated, the transport vehicle shall be detained and the delivering carrier immediately notified so that other potentially contaminated vehicles can be surveyed.
6. Consignee shipment notifications.
- (a) For each shipment of fissile or more than Type A quantities of radioactive material, and for *gas poisonous by inhalation* as defined in 49 CFR 173.115(c), the contractor shall notify the consignee of the dates of the shipment, the expected date of arrival, and any special loading or unloading instructions.
  - (b) The contractor consignee shall notify the shipper by the end of the first working day after the estimated arrival date if the shipment has not been received.
7. Shipment data shall be reported by the contractor to the Shipment Mobility/Accountability Collection (SMAC) automated data system at least monthly. If excepted from the SMAC reporting requirement, the contractor shall provide the Field Element with an annual shipment data report for the preceding fiscal year by November 1 of each year.
8. Transportation Services and Rates.
- (a) Upon request from the DOE Field Element, the contractor shall evaluate carriers, in accordance with the DOE "Motor Carrier Evaluation Program Plan and Program Procedures" carriers.

Carriers that transport Highway Route Controlled Quantities (HRCQ) of radioactive materials in less-than-truckload (LTL) or truckload (TL) quantities, any TL quantities of radioactive material, and hazardous waste in any quantity shall be evaluated by the contractor. A copy of the evaluation document shall be provided by the contractor to the DOE Field Element within 30 days of completion of the carrier evaluation.

- (b) Only carrier rates on file with EM-1, Field Elements, other Federal agencies, or a State commission shall be used by the contractor for shipments by common carriage.
  - (c) When other than low-cost carrier/mode transportation is used by the contractor, a written justification or management approval statement shall be retained.
9. New explosive substances and articles, including devices, made by the contractor shall be transported only after they have been tested, a classification approval has been obtained from Albuquerque or Oakland Operations Offices, and EM-1 has registered the explosive with the Department of Transportation (DOT). The contractor shall provide a copy of the classification approval and supporting documentation to the Field Element.
10. Information on reusable radioactive materials packagings in inventory, programmatically excess packagings, newly decertified packagings, new packaging needs, and packagings under development shall annually be provided by the contractor to the Field Element in order to be included in the Department's Packaging Management Plan and the Transportation Research and Development Plan.