

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

ORDER

DOE 5633.2

1-29-88

SUBJECT: CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS:
RESPONSIBILITIES AND AUTHORITIES

1. PURPOSE. To prescribe the Department of Energy (DOE) policies, responsibilities, and authorities for control and accountability of nuclear materials.
2. CANCELLATION. DOE 5630.1, CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS, of 8-3-79.
3. SCOPE. The provisions of this Order apply to all Departmental Elements and contractors performing work for the Department as provided by law and/or contract and as implemented by the appropriate contracting officer.
4. APPLICABILITY. This Order applies to DOE-owned nuclear materials at licensed and license-exempt facilities when these materials are not covered by Nuclear Regulatory Commission (NRC) license, with exceptions as specifically stated.
5. POLICY. The nuclear materials subject to this Order shall be controlled and accounted for in a graded manner consistent with the generic threat and with their strategic and monetary importance. Where applicable, the site-specific Master Safeguards and Security Agreement (MSSA) will contain the generic threat requirements which may reflect some modifications to meet site-specific needs. Material Control and Accountability (MC&A) systems will provide accurate nuclear materials inventory information; control nuclear materials in order to deter and prevent loss; provide timely and localized detection of unauthorized removals of nuclear materials within specified limits; provide assurance that all nuclear materials are accounted for and that theft/diversion has not occurred and assist in the prevention of dispersal of nuclear materials. In addition, DOE will:
 - a. Assure that material control and material accountability measures are designed to facilitate, to the extent practical, cost effective integration of the operational mission of the program with environmental, health and safety, and physical protection considerations.
 - b. Provide accountability and control data on a timely and uniform basis for nuclear material safeguards and nuclear materials management.
 - c. Assure that nuclear materials or equipment supplied to nations or persons abroad are subject to measures designed to assure that they

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Office of Safeguards
and Security

are used for official purposes only pursuant to an agreement for cooperation or other understanding with the United States.

- d. Facilitate the development of foreign country and International Atomic Energy Agency (IAEA) safeguards systems.

6. REFERENCES.

- a. Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), as amended.
- b. DOE 5633.3, CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS, of 2-3-88, which prescribes the Department of Energy policies, objectives, minimum requirements, responsibilities, and authorities for control and accountability of nuclear materials.
- c. DOE 5634.1A, SECURITY SURVEYS, NUCLEAR MATERIAL SURVEYS, AND FACILITY APPROVALS, of 2-3-88, which establishes Department of Energy requirements for the conduct of onsite security or nuclear materials surveys of facilities with DOE safeguards and security interests.
- d. DOE 5633.4, NUCLEAR MATERIALS TRANSACTIONS: DOCUMENTATION AND REPORTING, of 2-9-88, which establishes policies and defines procedures for the documentation of nuclear materials transactions, preparation of periodic summaries and reports concerning material balances of nuclear materials, reporting the status of nuclear materials held in inventory, and reporting nuclear materials transactions, material balances, and inventory data to the Nuclear Materials Management and Safeguards System.
- e. DOE 5630.13, MASTER SAFEGUARDS AND SECURITY AGREEMENTS, of 2-3-88, which establishes Department of Energy policy, requirements, and authorities for the development of Master Safeguards and Security Agreements.
- f. DOE 5632.2A, PHYSICAL PROTECTION OF SPECIAL NUCLEAR MATERIALS AND VITAL EQUIPMENT, of 2-9-88, which establishes policies and procedures for the protection of SNM and vital equipment.
- g. DOE 5632.5, PHYSICAL PROTECTION OF CLASSIFIED MATTER, of 2-3-88, which establishes DOE policies and procedures for the protection of classified matter.
- h. DOE 5632.6, PHYSICAL PROTECTION OF DOE PROPERTY AND FACILITIES, of 2-9-88, which establishes policies and procedures for the protection of DOE property and facilities.
- i. DOE 5632.7, PROTECTIVE FORCES, of 2-9-88, which establishes policies and requirements for protective forces protecting DOE facilities or interests.

- j. DOE 5632.8, PROTECTION PROGRAM OPERATIONS--SYSTEMS PERFORMANCE TESTS, of 2-4-88, which establishes DOE policies and procedures with respect to systems performance tests of physical protection systems.
- k. DOE 5632.9, ISSUANCE, CONTROL, AND USE OF BADGES, PASSES, AND CREDENTIALS, of 2-3-88, which establishes DOE policies and procedures for the issuance, control, and use of badges, passes, and credentials.
- l. DOE 5632.1A, PROTECTION PROGRAM OPERATIONS, of 2-9-88, which establishes DOE policies covering protection program operations.
- m. U.S. Department of Energy "Safeguards and Security Standards and Criteria, April 1987, which itemize standards and criteria that emanate from the safeguards and security Orders.
- n. DOE 5637.1, CLASSIFIED COMPUTER SECURITY PROGRAM, of 1-29-88, which establishes requirements, policies, and responsibilities for the development and implementation of a Department of Energy program to ensure the security of information stored in classified computer systems.
- o. DOE 5480.1B, ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH PROTECTION PROGRAM FOR DEPARTMENT OF ENERGY OPERATIONS, of 9-23-86, which establishes the Department's environmental protection, safety, and health protection program.
- p. DOE 5500.1A, EMERGENCY MANAGEMENT SYSTEM, of 2-26-87, which establishes overall policy and requirements for a system that will provide for development, coordination, and direction of Department of Energy planning, preparedness, and readiness assurance for response to operational, energy, and Continuity of Government emergencies involving the Department or requiring Departmental assistance.
- q. CG-SS-1, "Safeguards and Security Classification Guide," of July 1985, which provides original classification determinations for National Security Information (NSI) concerning nuclear safeguards and various aspects of security and to provide guidance for derivatively classifying documents and materials containing such NSI, Restricted Data, and Formerly Restricted Data.
- r. "Generic Threats for DOE Nuclear Programs and Facilities," of 1-31-83, issued by the Assistant Secretary for Defense Programs, which establishes the threat basis for protecting DOE facilities and security interests.
- s. DOE/DP-0035, "Safeguards Seal Reference Manual," December 1986, which is to assist nuclear facility personnel in selecting, procuring, and applying the proper seals for safeguarding nuclear material.
- t. DOE 1270.2A, SAFEGUARDS AGREEMENT WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY, of 7-29-83, which prescribes policies and responsibilities of the Department of Energy for compliance with the agreement, including the

associated protocol, between the Government of the United States and the International Atomic Energy Agency for the application of safeguards in the U.S.

u. Title 10 CFR parts 1 to 199, Nuclear Regulatory Commission regulations.

v. DOE 6430.1, GENERAL DESIGN CRITERIA, of 12-12-83, which provides subject criteria for use in the acquisition of Departmental facilities.

7. DEFINITIONS. See DOE 5633.3.

8. RESPONSIBILITIES AND AUTHORITIES.

a. Assistant Secretary for Defense Programs.

- (1) Approves DOE-wide policies, procedures, and standards for the material control and accountability of special nuclear material (SNM) and other designated nuclear materials.
- (2) Develops generic threat guidance for operations office use in formulating site-specific threat statements.
- (3) Conducts inspections and evaluations and informs the appropriate operations office managers and program managers of the results in a timely manner; coordinates with appropriate Departmental organizations to correct deficiencies.
- (4) Submits reports to the Secretary on the status of the safeguards program.

b. Director of Safeguards and Security.

- (1) Develops, after coordination with Secretarial Officers and field organizations, DOE-wide policies, procedures and standards provides staff guidance for the safeguarding of nuclear materials.
- (2) Provides specific written guidance that would assist license exempt contractors and subcontractors to design, evaluate, and validate MC&A systems.
- (3) Approves requests for exceptions to the provisions of this Order unless this responsibility is specifically granted to the cognizant operations office.
- (4) Assures that DOE policies, procedures, and standards for SNM safeguards are at least equivalent in their effectiveness to policies, procedures, and standards established by the NRC.
- (5) Provides Headquarters level overview of key MC&A data including: materials control and materials accounting survey reports, inventory differences, and shipper/receiver differences. Also prepares and

issues the Semiannual Report on Strategic Special Nuclear Material Inventory Differences.

- (6) Conducts/participates in special investigations of activities of license-exempt contractors and other contractors which possess DOE-owned nuclear materials, as necessary. Coordinates these special investigations with the appropriate Headquarters program office and operations office(s)
- (7) In consultation with program offices, initiates and directs programs for providing required technology, equipment, and procedures to meet safeguards objectives, and for assuring that Government and industry are provided with chemical and isotopic reference standards, and calibration and test materials.
- (8) In connection with activities of license-exempt contractors and subcontractors, recommends to the responsible authority corrective action to assure compliance with overall safeguards policies, procedures, and requirements; and as appropriate recommends other courses of action.
- (9) Prepares reports and provides data for reports, through DP-1, to the Secretary on the status of the safeguards program.
- (10) Ensures the development and maintenance of the Nuclear Materials Management and Safeguards System (NMMSS) by: (a) collecting data relative to nuclear materials including those for which the United States has a safeguards interest both domestically and abroad; (b) processing the data; and (c) issuing reports to support the nuclear materials safeguards and management needs of DOE, NRC, other Government organizations, and the IAEA.
- (11) In connection with international agreements, recommends corrective action to assure compliance with overall safeguards policies, procedures, and standards, and when appropriate recommends suspension of any agreements to meet DOE policy in regard to such arrangements.
- (12) Conducts onsite safeguards and security reviews of nuclear materials distributed abroad to the extent provided for in international, multinational, and bilateral agreements, and participates in international discussions regarding safeguards policies and procedures with other DOE organizations involved in international programs.
- (13) Provides technical advice, analyses, and recommendations in developing international safeguards policies and procedures, and subsequently manages programs for technical cooperation with the IAEA in its safeguards role in guarding against the diversion of nuclear materials and equipment which had been supplied for peaceful purposes, to the manufacture of nuclear weapons, nuclear explosive devices, or any other military purpose.

- (14) Develops and implements MC&A training programs for DOE and DOE contractor safeguards personnel.

c. Secretarial Officers.

- (1) Through the contracting officer, assure that each contractor and subcontractor under their jurisdiction who may use or possess designated nuclear materials are required by contract to develop and maintain written current procedures for safeguards control and accountability of nuclear materials.
- (2) Assure material control and accountability requirements are considered in all phases of design of new facilities/operations.
- (3) Through the contracting officer, assure that each contract under which nuclear materials are to be supplied contain appropriate safeguards provisions, consistent with DOE policy.
- (4) Through the contracting officer, assure that inventory and scrap levels of nuclear materials held by contractors and subcontractors under their jurisdiction are minimized to be consistent with operational needs and good safeguards practices.
- (5) Assure appropriate actions are taken to correct safeguards deficiencies.

d. Heads of Field Organizations.

- (1) Implement material control and accountability of nuclear materials for all DOE activities under their jurisdiction in conformity with the policies, procedures, planning, and other requirements set forth in the 5630 series of Orders, and set policies, procedures, and requirements for nuclear materials not specifically covered in the 5630 series.
- (2) Approve classified list of threats and targets developed by each contractor under their jurisdiction as appropriate for design, and/or evaluation and validation of MC&A systems.
- (3) Assure the maintenance of records and issuance of periodic reports reflecting nuclear materials transactions and inventories under their jurisdiction.
- (4) Approve exceptions to the requirements of the 5630 series of Orders as specified in the relevant Orders.
- (5) Monitor material control indicators and review and analyze nuclear material alarms experienced in operations under their jurisdiction.
- (6) Through the contracting officer, assure that each contractor and subcontractor under their jurisdiction who may use or possess designated nuclear materials are required by contract to develop

and maintain written current procedures for safeguards control and accountability of nuclear materials.

- (7) Assure material control and accountability requirements are considered in all phases of design of new facilities/operations.
- (8) Through the contracting officer, assure that each contract under which nuclear materials are to be supplied contain appropriate safeguards provisions, consistent with DOE policy.
- (9) Through the contracting officer, assure that inventory and scrap levels of nuclear materials held by contractors and subcontractors under their jurisdiction are minimized to be consistent with operational needs and good safeguards practices.
- (10) Assure appropriate actions are taken to correct safeguards deficiencies.
- (11) Assure that contractors and subcontractors under their jurisdiction analyze all nuclear material control indicators, determine the probable cause of all nuclear material alarms, and take such corrective action as is deemed necessary.
- (12) Report malevolent acts and nuclear material alarms to the Office of Safeguards and Security and the appropriate Headquarters program office consistent with the requirements in DOE 5633.3.
- (13) Require each contractor, facility, and DOE office, as appropriate, under their reporting jurisdiction to determine the reasons for shipper-receiver differences, evaluate the significance of all such differences, and take appropriate corrective action. The field organization may direct the contractor to take additional actions to resolve shipper-receiver differences.
- (14) Require that a material control and accountability plan be developed for each facility possessing nuclear materials, and approve that plan and subsequent changes.
- (15) Assure nuclear material control and accountability upgrade needs are identified, documented, and coordinated with the responsible program offices consistent with budgetary schedules.
- (16) Require that each facility develop and comply with procedural directives implementing its material control and material accountability plan.
- (17) Develop procedures for the conduct and reporting of nuclear materials surveys in accordance with DOE 5634.1A. Conduct oversight tests and evaluations of material control and accounting provisions of contractors' safeguards programs.

- (18) Provide MC&A systems review and approval for all facilities prior to beginning new operations that might alter the performance of the MC&A system.
- (19) Assure cost-effective overall protection at each site, through integration, to the extent practicable, of MC&A systems, procedures, and operations with the associated physical protection systems, procedures, and operations.
- (20) Assure that system assessment requirements are identified and met for facilities containing Category I and/or II SNM.
- (21) Utilize the DP generic threat guidance to formulate site-specific threat statements for inclusion in applicable MSSAs and other site safeguard and security documents.

BY ORDER OF THE SECRETARY OF ENERGY:



LAWRENCE F. DAVENPORT
Assistant Secretary
Management and Administration