

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

ORDER

DOE 5633.2A

9-23-92

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 5633.2, CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS: RESPONSIBILITIES AND AUTHORITIES, of 1-29-88.
3. APPLICABILITY. This Order applies to nuclear materials at DOE-owned facilities and DOE-owned nuclear materials at other facilities which are exempt from licensing by the Nuclear Regulatory Commission (NRC).
4. APPLICATION TO CONTRACTS. Except for the exclusions in paragraph 5, the provisions of this Order are to be applied to covered contractors and they will apply to the extent implemented under a contract or other agreement. A covered contractor is a seller of supplies or services, involved with DOE-owned nuclear materials at DOE-owned or leased facilities exempt from licensing and regulation by the NRC or an NRC Agreement State, and awarded a procurement contract or subcontract. The term "contract" does not include small purchases.
5. EXCLUSIONS. This Order does not apply to DOE-owned nuclear materials at Department of Defense facilities or foreign facilities. To avoid duplicative or conflicting requirements, facilities, projects, and programs under the cognizance of the Office of Civilian Radioactive Waste Management subject to NRC regulation shall use the rules, standards, and criteria specified by the NRC or NRC Agreement State in lieu of this Order.
6. REFERENCES. See Attachment 1.
7. DEFINITIONS. Standardized definitions for terms commonly used in the Safeguards and Security Program are published in the "Safeguards and Security Definitions Guide".
8. POLICY. The nuclear materials subject to this Order shall be controlled and accounted for in a graded manner consistent with the design basis threat and with their strategic and monetary importance. Where applicable, the site-specific safeguards and security planning document will contain the design basis 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 or misuse; provide timely and localized detection of unauthorized removals of nuclear materials within

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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 are used for official purposes only, pursuant to an agreement for cooperation or other understanding with the United States.
- d. Facilitate the development and implementation of foreign country and International Atomic Energy Agency (IAEA) safeguards systems.

9. RESPONSIBILITIES AND AUTHORITIES.

a. Program Secretarial Officers (PSOs) shall:

- (1) Provide line management oversight for the implementation of 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 DOE 5630 series of Orders, and set policies, procedures, and requirements for nuclear materials not specifically covered in the DOE 5630 series.
- (2) Ensure that responsibilities and authorities for materials control and accountability of nuclear materials are addressed in the Memorandums of Agreement and associated appendices between PSOs and Managers of DOE Field Offices.
- (3) For matters under their cognizance, ensure that Self-Assessment Offices conduct independent assessments of the adequacy of DOE and contractor performance of their responsibilities for material control and accountability of nuclear materials.
- (4) For matters under their cognizance, ensure an individual(s) is (are) designated to be responsible for bringing to the attention of the contracting officer each procurement falling within the scope of this Order. Unless another individual is designated, the responsibility is that of the procurement request originator (the individual responsible for initiating a requirement on DOE F 4200.33, "Procurement Request Authorization").

- (5) Through contracting officers require that:
 - (a) Each contractor and subcontractor under their jurisdiction who may use or possess nuclear materials as identified in DOE 5633.3, CONTROL AND ACCOUNTABILITY OF NUCLEAR MATERIALS, Figure I-1, is required by contract to develop and maintain current written procedures for safeguards control and accountability of nuclear materials.
 - (b) Each contract under which nuclear materials are to be supplied contains appropriate safeguards provisions consistent with DOE policy.
 - (c) 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.
- (6) Ensure material control and accountability requirements are considered in all phases of design of new facilities/operations under their cognizance.
- (7) Ensure appropriate actions are taken to correct safeguards deficiencies at facilities under their cognizance.

b. Director of Security Affairs (SA-1) shall:

- (1) Establish DOE-wide policies, procedures, and standards for the material control and accountability of special nuclear material (SNM) and other designated nuclear materials.
- (2) Develop and approve design basis threat guidance for use in formulating site-specific threat statements.
- (3) Submit reports to the Secretary on the status of the safeguards program in conjunction with the Annual Report to the President on the Status of Safeguards and Security of Domestic Nuclear Weapons Facilities.

c. Director of Safeguards and Security (SA-10) shall:

- (1) Develop, after coordination with appropriate Departmental elements, DOE-wide policies, procedures, and standards, and provide staff guidance for the safeguarding of nuclear materials.
- (2) Provide specific written guidance that would assist license-exempt contractors and subcontractors to design, evaluate, and validate MC&A systems.

- (3) Ensure 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.
- (4) Provide Headquarters level overview of key MC&A data including: materials control and materials accounting survey reports; inventory differences; and shipper/receiver differences.
- (5) Conduct/participate in special investigations of activities of license-exempt contractors and other contractors possessing DOE-owned nuclear materials, as necessary. Coordinate these special investigations with the appropriate PSOs and DOE Field Offices.
- (6) In consultation with PSOs, initiate and direct 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 which are supportive of safeguards programs.
- (7) In connection with activities of license-exempt contractors and subcontractors, recommend to the responsible authority corrective action to assure compliance with overall safeguards policies, procedures, and requirements, and, as appropriate, recommend other courses of action.
- (8) Prepare reports and provide data for reports, through SA-1, to the Secretary on the status of the safeguards program.
- (9) In connection with the maintenance of records and data to support the implementation of nuclear material accountability, ensure:
 - (a) Collection and processing of data relative to nuclear materials for which the United States has a safeguards interest as required by U.S. statutes and international treaty and agreement provisions.
 - (b) Issuance of reports to support the nuclear materials safeguards needs of DOE, NRC, other Government organizations, and the IAEA.
- (10) In connection with international agreements, recommend corrective action to assure compliance with overall safeguards policies, procedures, and standards.
- (11) Provide technical advice, analyses, and recommendations in developing international safeguards policies and procedures.

- (12) Develop and implement MC&A training programs for DOE and DOE contractor safeguards personnel. Ensure that minorities, women, and persons with disabilities are accorded equal opportunity to receive this training.
- d. Assistant Secretary for Environment, Safety and Health (EH-1) through the Deputy Assistant Secretary for Security Evaluations shall:
- (1) Conduct inspections and assess the effectiveness of the program to control and account for nuclear materials.
 - (2) Inform appropriate heads of DOE field elements and cognizant PSOs of the results of such assessments in a timely manner.
- e. Director of Arms Control and Nonproliferation (AN-1) shall:
- (1) Manage programs for technical cooperation with the IAEA as part of AN's 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.
 - (2) Conduct onsite safeguards and security reviews of nuclear materials distributed abroad to the extent provided for in international, multinational, and bilateral agreements, and participate in international discussions regarding safeguards policies and procedures with other DOE organizations involved in international programs.
 - (3) In coordination with PSOs, ensure compliance of DOE facilities with the terms of the "Agreement Between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America" and its associated Protocol.
- f. Director, Naval Nuclear Propulsion Program shall, in accordance with the responsibilities and authorities assigned by Executive Order 12344 (statutorily prescribed by Public Law 98-525 (42 U.S.C. 7158, note)) and to ensure consistency throughout the joint Navy/DOE organization of the Naval Nuclear Propulsion Program, implement and oversee all policy and practices pertaining to this DOE Order for activities under the Director's cognizance.
- g. Heads of DOE Field Elements shall:
- (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 DOE 5630 series, and set policies, procedures, and requirements for nuclear materials not specifically covered in the 5630 series.

- (2) Ensure that responsibilities and authorities for material control and accountability of nuclear materials are addressed in the Memorandums of Agreement and associated appendices between PSOs and field elements.
- (3) Approve a 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.
- (4) Ensure the maintenance of records and issuance of periodic reports reflecting nuclear materials transactions and inventories under their jurisdiction.
- (5) Monitor material control indicators and review and analyze reportable occurrences experienced in operations under their jurisdiction.
- (6) Designate an individual(s) to be responsible for bringing to the attention of the contracting officer each procurement falling within the scope of this Order. Unless another individual is designated, the responsibility is that of the procurement request originator (the individual responsible for initiating a requirement on DOE F 4200.33).
- (7) Through contracting officers require that:
 - (a) Each contractor and subcontractor under their jurisdiction who may use or possess designated nuclear materials are required by contract to develop and maintain current written procedures for control and accountability of nuclear materials;
 - (b) Each contract under which nuclear materials are to be supplied contains appropriate safeguards provisions consistent with DOE policy; and
 - (c) 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.
- (8) Ensure material control and accountability requirements are considered in all phases of design of new facilities/operations.
- (9) Ensure appropriate actions are taken to correct safeguards deficiencies.
- (10) Ensure 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.

- (11) Report malevolent acts and other reportable occurrences to SA-10, the Lead PSO for the field element, and other affected PSOs consistent with the requirements in DOE 5633.3 and DOE 5000.3A, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION.
- (12) Require, as appropriate, each contractor, facility, and DOE Element under their reporting jurisdiction to determine the reasons for shipper-receiver differences, evaluate the significance of all such differences, and take appropriate corrective action.
- (13) Require that a material control and accountability plan be developed for each facility possessing nuclear materials and approve that plan and subsequent changes. Require development and compliance with procedural directives implementing the material control and material accountability plan.
- (14) Assure nuclear material control and accountability upgrade needs are identified, documented, and coordinated with the Lead PSO and other affected PSOs consistent with budgetary schedules.
- (15) Develop procedures for the conduct and reporting of nuclear materials surveys in accordance with DOE 5634.1A, FACILITY APPROVALS, SECURITY SURVEYS, AND NUCLEAR MATERIALS SURVEYS. Conduct oversight tests and evaluations of material control and accounting provisions of contractors' safeguards programs.
- (16) Provide MC&A systems review and approval for all facilities prior to beginning new operations that might alter the performance of existing MC&A systems.
- (17) 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.
- (18) Assure that system assessment requirements are identified and met for facilities possessing nuclear material.
- (19) Utilize the design basis threat guidance to formulate site-specific threat statements for inclusion in applicable site-specific safeguards and security planning documents.
- (20) Assure vulnerability assessments are required for Category I SNM locations and for Category II locations where rollup to Category I is credible.

- h. Heads of Departmental Elements (the senior ranking official at a DOE office location) shall include in a procurement request package, for each procurement requiring the application of this Order, the following: (1) identification of the Order; (2) identification of the specific requirements with which a contractor or other awardee is to comply, or, if this is not practicable, identification of the specific paragraphs or other portions of this Order with which a contractor or other awardee is to comply; and (3) requirements for the flowdown of provisions of this Order to any subcontract or subaward. For application to awarded management and operating contracts, Heads of Departmental Elements may set forth this information in a written communication to the contracting officer rather than in a procurement request package.
10. DEVIATIONS. Deviations to the provisions of this Order shall be requested and approved according to the provisions of DOE 5630.11, SAFEGUARDS AND SECURITY PROGRAM.

BY ORDER OF THE SECRETARY OF ENERGY:



DOLORIS L. ROZZI
Director of Administration
and Human Resource Management

REFERENCES

1. Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), as amended, which prescribes requirements related to the development, use, and control of atomic energy, including nuclear materials.
2. Title 10 CFR Parts 1 to 199, which contains regulations of the Nuclear Regulatory Commission related to energy and nuclear material use.
3. DOE 1270.2B, SAFEGUARDS AGREEMENT WITH THE INTERNATIONAL ATOMIC ENERGY AGENCY, of 6-23-92, 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.
4. DOE 5000.3A, OCCURRENCE REPORTING AND PROCESSING OF OPERATIONS INFORMATION, OF 5-30-90, which establishes a DOE system for identification, categorization, notification, analysis, reporting, followup, and closeout of occurrence.
5. DOE 5480.1B, ENVIRONMENT, SAFETY, AND HEALTH PROGRAM FOR DEPARTMENT OF ENERGY OPERATIONS, of 9-23-86, which establishes the Department's environmental protection, safety, and health protection program.
6. DOE 5500.1B, EMERGENCY MANAGEMENT SYSTEM, of 4-30-91, 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.
7. DOE 5630.11, SAFEGUARDS AND SECURITY PROGRAM, of 1-22-88, which establishes policy and responsibilities for the Department of Energy Safeguards and Security Program.
8. DOE 5630.13A, MASTER SAFEGUARDS AND SECURITY AGREEMENTS, of 6-8-92, which establishes Department of Energy policy, requirements, and authorities for the development of Master Safeguards and Security Agreements.
9. DOE 5630.14A, SAFEGUARDS AND SECURITY PROGRAM PLANNING, of 6-9-92, which establishes a standardized approach to protection program planning.
10. DOE 5630.15, SAFEGUARDS AND SECURITY TRAINING PROGRAM, OF 8-21-92, which establishes procedures for standardizing and implementing the DOE Safeguards and Security Training Program.
11. DOE 5630.16, SAFEGUARDS AND SECURITY PERFORMANCE TEST PROGRAM, of 8-25-92, which establishes policy, requirements, and responsibilities for a Safeguards and Security Performance Test Program.

12. DOE 5632.1B, PROTECTION PROGRAM OPERATIONS, of 9-8-92, which establishes policies covering protection program operations.
13. 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.
14. DOE 5632.5, PHYSICAL PROTECTION OF CLASSIFIED MATTER, of 2-3-88, which establishes DOE policies and procedures for the protection of classified matter.
15. DOE 5632.6, PHYSICAL PROTECTION OF DOE PROPERTY AND UNCLASSIFIED FACILITIES, of 2-9-88, which establishes policies and procedures for the protection of DOE property and unclassified facilities.
16. DOE 5632.7, PROTECTIVE FORCES, of 2-9-88, which establishes policies and requirements for protective forces protecting DOE facilities or interests.
17. 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.
18. DOE 5632.9A, ISSUANCE, CONTROL, AND USE OF BADGES, PASSES, AND CREDENTIALS, of 9-23-92, which establishes DOE policies and procedures for the issuance, control, and use of badges, passes, and credentials.
19. 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.
20. 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.
21. DOE 5634.1A, FACILITY APPROVALS, SECURITY SURVEYS, AND NUCLEAR MATERIALS SURVEYS, 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.
22. 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.

23. DOE 6430.1A, GENERAL DESIGN CRITERIA, of 4-6-89, which provides subject criteria for use in the acquisition of Departmental facilities.
24. U.S. Department of Energy "Safeguards and Security Standards and Criteria, October 1988, issued by the Director of Safeguards and Security, which itemize standards and criteria that emanate from the safeguards and security Orders.
25. CG-SS-2, "Classification Guide for Safeguards and Security Information," of July 1990, issued by the Director of Classification, 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.
26. "DESIGN BASIS THREAT POLICY FOR THE DEPARTMENT OF ENERGY (DOE) PROGRAMS AND FACILITIES (U)" of March 1992, issued by the Director of Security Affairs, which establishes the threats to be considered in the design of safeguards and security systems for protecting DOE facilities and security interests.
27. DOE/DP-0035, "Safeguards Seal Reference Manual," January 1991, issued by the Director of Safeguards and Security which is to assist nuclear facility personnel in selecting, procuring, and applying the proper seals for safeguarding nuclear material.
28. "Safeguards and Security Definitions Guide," of 9-26-91, which is published by the Office of Safeguards and Security.

