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

ORDER

DOE 5632.2

2-16-79

SUBJECT: PHYSICAL PROTECTION OF SPECIAL NUCLEAR MATERIALS

1. PURPOSE. This Order establishes minimum physical protection standards for special nuclear materials (SNM). These and other security standards, when integrated with the material control and accountability standards in the Department of Energy (DOE) safeguards and security directives, provide the basis for a graded safeguards and security system for deterring, preventing, and effectively counteracting (through coordination and initiation of recovery and the minimization of consequences) theft of SNM by an adversary with or without inside collaboration. (See separate classified guidance on credible threat characterization provided by the Office of Safeguards and Security.)

2. CANCELLATION AND SPECIAL INSTRUCTIONS. Interim Management Directive 6103, PHYSICAL PROTECTION OF SPECIAL NUCLEAR MATERIAL, of 9-29-77, as extended by DOE N 1321.25 of 11-27-78. The access authorization requirements of subparagraphs 8f(2), 8g(1)(a)1, 8g(1)(b)1, and 8g(1)(c) of this Order shall be held in abeyance pending publication in the Federal Register of appropriate revisions to 10 CFR Part 710 to legally establish those requirements.

3. SCOPE. The provisions of this Order apply to all elements of the Department of Energy and to contractors and subcontractors to the extent they possess SNM not subject to a Nuclear Regulatory Commission (NRC) license.

4. SPECIAL CONDITIONS. The provisions of this Order, or the level of protection applied to SNM, may be reduced when one or more of the following conditions exist:

   a. The SNM is not readily separable from other radioactive material and the combination of the SNM and other radioactive material delivers an external radiation dose of approximately 100 rems per hour or more at 1 meter from any accessible surface without intervening shielding material.

   b. The SNM is contained in material that has been declared as waste.

   C. The SNM is in a chemical, isotopic, or physical form or is within isolated in-process, or remote inaccessible, containment which provides comparably effective protection, to that specified herein, against malevolent use or theft.

DISTRIBUTION:
All Departmental Elements
Federal Energy Regulatory Commission (info)

INITIATED BY:
Office of Safeguards and Security

GPO 925-697

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d. Where the foregoing conditions exist, they should be specifically and clearly described in the facility safeguards and security plan to demonstrate a logical basis for the physical protection system provided. When material is to be shipped, it shall be the responsibility of the shipper to determine if any of these conditions exist. At certain facilities, a level of physical protection exceeding that specified herein may be necessary in order to assure a satisfactory level of integrated safeguards and security system effectiveness.

5. POLICY AND OBJECTIVES. It is DOE policy to physically protect all SNM against theft. This Order is designed to facilitate effective safeguards and security systems through graded and performance-evaluated physical protection requirements for SNM. The minimum standards have been so designed as to satisfy the policy requirement that the effectiveness of nuclear safeguards and security systems in DOE activities provide comparable effectiveness with that required of licensees by the Nuclear Regulatory Commission.

6. DEFINITIONS.

a. Albuquerque Operations Office, Transportation Safeguards Division (ALO/TSD) Courier. A "Q" cleared employee of the Transportation Safeguards Division, Albuquerque Operations Office, who is authorized under Section 161.k. of the Atomic Energy Act of 1954, as amended, or other appropriate statutory authority, to carry firearms, and who is employed and charged with the responsibility for the safe secure movement of nuclear explosives, classified nuclear components, and Category I quantities of SNM in the DOE Transportation Safeguards System.

b. Assessment. An onsite examination by the Headquarters Office of Safeguards and Security of the factors comprising the safeguards and security program administered by a DOE operations office and implemented by a DOE contractor. The purpose of the assessment is to determine the effectiveness of the operations office in assuring that DOE contractors are complying with the requirements of this and related safeguards and security directives and in administering an effective overall safeguards and security program.

c. Category "I" Quantities of SNM.

(1) Uranium 235 (contained in Uranium enriched to 20% or more in the isotope U-235) alone, or in combination with Plutonium and/or Uranium 233 when (multiplying the Plutonium and/or Uranium 233 content by 2.5) the total is 5,000 grams or more.

(2) Plutonium and/or Uranium 233 when the Plutonium and/or Uranium 233 content is 2,000 grams or more.

(3) SNM in lesser quantities but which is located in the same area or shipment with other SNM with which it could be selectively combined to produce the equivalent quantities in item (1) of this category.

d. Category II Quantities of SNM.

(1) Uranium 235 (contained in Uranium enriched to 20% or more in the isotope U-235) alone, or in combination with Plutonium and/or Uranium 233 (multiplying the Plutonium and/or Uranium 233 content by 2.5) when the total is 1,000 to 4,999 grams.

(2) Plutonium and/or Uranium 233 when the Plutonium and/or Uranium 233 content is 400 grams to 1,999 grams.

(3) SNM in lesser quantities but which is located in the same area or shipment with other SNM with which it could be selectively combined to produce the equivalent quantities in item (1) of this category.

e. Category III Quantities of SNM have been further divided into two subcategories IIIA and IIIB:

(1) Category IIIA Quantities of SNM.

(a) Uranium 235 (contained in Uranium enriched to 20% or more in the isotope U-235) when the total is 350 grams to 999 grams.

(b) Plutonium and/or Uranium 233 when the Plutonium and/or Uranium 233 content is 220 grams to 399 grams.

(c) Combinations of Plutonium and/or Uranium 233 with Uranium 235 (contained in Uranium enriched to 20% or more in the isotope U-235) when the total is less than 1,000 grams and the Plutonium and/or Uranium 233 content is less than 400 grams.

(2) Category IIIB Quantities of SNM.

(a) Uranium 235 (contained in Uranium enriched to 20% or more in the isotope U-235) when the total of the U-235 content is 1 gram to 349 grams.

(b) Plutonium and/or Uranium-233 when the Plutonium and/or Uranium 233 content is from 1 gram to 219 grams.

(c) Uranium 235 contained in Uranium enriched to less than 20% in the isotope U-235 in all quantities above .99 grams.

f. Courier. An armed DOE employee, or member of the Armed Forces assigned to and performing duties under the direction and control of the DOE, who possesses a "Q" access authorization or an equivalent Department of Defense (DOD) security clearance, and who is specifically charged with the armed protection of designated matter in transit.

g. DOE-Approved Equipment. Equipment (i.e. alarm, assessment, monitoring, detection) used in conjunction with all other elements of the site safeguards and security system as described in the site specific safeguards and security plan (after such plan is approved by the responsible operations office).

h. DOE Transportation Safeguards System. The DOE program, managed and operated by the Manager of the Albquerque Operations Office (AL) under the programmatic direction of the Director of Military Application (DP-20), which has the administrative and courier personnel, special transport and escort vehicles, and nationwide HF communications system (SECOM) required to carry out the total responsibility for the safe secure domestic transportation of all DOE-owned or -controlled nuclear explosives and Category I quantities of SNM.

i. Duress System. A system which can covertly communicate a situation of duress to a security control center or other safeguards and security personnel who can notify a security control center.

j. Escort. A DOE or DOE contractor or common carrier employee specifically assigned for the delivery of a security shipment. Escorts include guards, truck drivers, and other attendants furnished by DOE, DOE contractors, or common carriers.

k. Guard. See DOE 5632.1, "Physical Protection of Classified Matter and Information". (To be issued)

l. Hardened Security Post. See DOE 5632.1.

m. Intrusion Alarm System (perimeter or interior). Detection hardware and/or software comprised of (1) sensors, (2) alarm assessment systems, and (3) alarm reporting systems (including alarm communications and information display equipment).

n. Material Access Area (MAA). An area containing a Category I quantity of SNM specifically defined by physical barriers, located within a protected area, and subject to specific access controls.

o. Material Surveillance Procedures. Procedures to assure the observation of an area containing SNM by at least two cleared and authorized persons who may be doing other work but who can give an alarm in time to prevent the unauthorized removal of the SNM. One of the persons who maintains such surveillance must be "Q" cleared and the other must possess at least an "S" or "L" access authorization.

p. Outlay Program Managers. The Assistant Secretaries for Conservation and Solar Applications, Resource Applications, Energy Technology, Environment, and Defense Programs, and the Director of Energy Research.

q. Physical Barriers. See DOE 5632.1.

r. Protected Area (PA). A specifically defined area enclosed by physical barriers meeting the standards contained in DOE 5632.1.

s. Random Patrol. A patrol conducted in a manner such that the location of the patrol at any specific time cannot be predicted.

t. Safeguards and Security Plan. A specific description of the systems and procedures implemented to protect special nuclear material.

u. SECOM. The high frequency radio communications network operated by AL in support of transportation safeguards.

v. Security Container.

(1) A metal security container approved by the General Services Administration for the storage of classified matter and marked "General Services Administration Approved Security Container." This container meets the Class 1 standards of Federal Specification AA-F-357, the Class 5 standards of Federal Specification AA-F-358, or the Class 5 standards of Federal Specification AA-F-363.

(2) A burglar-resistant cabinet or chest having a body of steel at least 1/2" thick, and a combination locked steel door at least 1" thick exclusive of bolt work and locking devices.

w. Security Inspector. See DOE 5632.1.

x. Security Room. One having combination-locked door(s) and protected by a DOE-approved intrusion alarm system actuated by any penetration of walls, floor, ceiling or openings, or by motion within the room.

y. Special Nuclear Material (SNM). Means (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which, pursuant to the provisions of Section 51 of the Atomic Energy Act of 1954, as amended, has been determined to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material.

z. SNM Facility. An educational institution, a plant, laboratory, office, or building utilized by DOE, its contractors, subcontractors, or consultants and which contains SNM.

aa. SNM Facility Approval. A determination based upon review of a safeguards and security plan and an onsite survey by the responsible DOE operations office that a facility is approved to receive, use, process, and/or store SNM.

bb. SNM Vault. A penetration-resistant, windowless enclosure which: (1) Has walls, floor, and ceiling substantially constructed of materials which afford a forced penetration resistance at least equivalent to that of 8 inch thick reinforced concrete; (2) has any openings greater than 96 square inches in area and over 6 inches in the smallest dimension protected by imbedded steel bars at least 5/8 inches in diameter on 6 inch centers both horizontally and vertically; (3) has a built-in combination locked steel door which in existing structures is at least 1" thick exclusive of bolt work and locking devices and which for new structures at least meets the class 5 standards of Federal Specification AA-D-600B; and which (4) can constitute one of the barrier elements of a site-specific integrated safeguards and security physical protection system and which, in conjunction with other measures, will prevent successful completion of an attempted forcible theft of SNM.

cc. Survey. An on-the-spot critical examination by the responsible DOE operations office of an SNM facility or SNM shipment and devices, equipment, and procedures employed to protect the SNM involved.

dd. Waste. A term applied to any source and special nuclear material which is no longer useful. Includes that which has become radioactive by any means to the extent that the material itself exhibits an emission of radioactivity of such a level that it must be handled and disposed of by special methods in order to protect the general public. Also includes scrap which has been evaluated and determined to be uneconomical to recover, and which is not necessarily radioactive.

7. RESPONSIBILITIES AND AUTHORITIES.

a. Director of Safeguards and Security (Assistant Secretary for Defense Programs).

(1) Develops and establishes policies and ensures that requirements, standards, and criteria for the physical protection of SNM are developed in coordination with appropriate Headquarters organizations and operations offices.

(2) Provides advice and technical assistance on the physical protection of SNM to outlay program managers and to managers of operations offices.

(3) Reports immediately to the Under Secretary, Assistant Secretary for Defense Programs, Inspector General, concerned outlay program managers, and the Federal Bureau of Investigation any information related to actual or attempted theft of SNM or any circumstances indicating a violation of Federal law concerning such material.

(4) Conducts assessments, and informs the appropriate operations office manager and outlay program manager of the results in a timely manner, and coordinates with appropriate DOE organizations to correct deficiencies, including those which have a program or budgetary impact.

(5) Provides assistance to appropriate outlay program managers and operations office managers in development of the safeguards and security plan for each DOE SNM facility.

(6) Reviews and comments on safeguards and security plans for site specific application.

(7) Conducts research and development in physical protection technology and equipment to meet safeguards and security requirements, and provides information about this technology to the nuclear community both domestically and internationally.

(8) Assures comparable effectiveness of DOE safeguards and security systems with those required by the Nuclear Regulatory Commission.

(9) Reviews and comments on exceptions to the provisions of this directive approved by managers of operations offices on the basis of site specific applications.

b. Assistant Secretary for Environment.

(1) Advises and recommends DOE policy and standards as relates to personnel and environmental protection from radioactive materials

and overview and appraisal of all operations to assure compliance with such policy and standards.

(2) Participates in the development of procedures and methods for implementing DOE policies and standards for the safe transportation of SNM.

(3) Serves as the primary point of contact with the transportation industry and Federal, State, and local agencies in implementing DOE's transportation policies and standards.

c. Outlay Program Managers.

(1) Report immediately to the DOE Emergency Operations Center any information related to an actual, attempted, or suspected theft of SNM or any other circumstances indicating a violation of Federal law concerning such material.

(2) Require the preparation of safeguards and security plans for facilities and programs for which they have programmatic responsibility and assist in the development of such plans in coordination with the Director of Safeguards and Security.

(3) Develop and support programs and budgets necessary to assure that special nuclear materials under their programmatic jurisdiction are protected in accordance with this Order in coordination with operations offices, and the Office of Safeguards and Security.

(4) Consult with the Director of Safeguards and Security on questions concerning safeguards and security requirements and other matters pertaining to the physical protection of SNM.

(5) Provide, in coordination with the Office of Safeguards and Security, appropriate guidance to responsible operations offices on actions to be taken with respect to implementing safeguards and security systems and procedures.

(6) Perform reviews, as necessary, to evaluate safeguards and security program funding of activities involving SNM under their programmatic jurisdiction.

d. Director of Military Application (DP-20).

(1) Directs the DOE Transportation Safeguards System for the domestic shipments of nuclear explosives; Category I quantities of SNM, excluding naval reactor (NR) core shipments; classified configurations of Category II quantities of SNM as requested by responsible outlay program managers; and any form of Pu-238 in excess of five grams. (NR core shipment program responsibility rests with the Director, Division of Naval Reactors).

(2) Reviews and coordinates the development of safeguards technology to deter and protect against theft of nuclear explosives, their components and SNM in transit.

e. Director of Administration, through the Director of Construction and Facility Management.

(1) Develops general design criteria and construction standards to be applied in design and construction of DOE facilities.

(2) Incorporates, in these criteria and standards, the design and construction requirements for physical protection of SNM, with input, advice, and guidance from the Office of Safeguards and Security.

(3) Provides engineering and construction support to program officials and operations offices in construction project planning and execution.

f. Managers of Operations Offices.

(1) Assure that SNM is afforded physical protection in accordance with this directive.

(2) Require, review, and approve written site-specific safeguards and security plans, in consultation with appropriate Headquarters outlay program managers, and submit plans and major changes thereto to the Director of Safeguards and Security for review and comment.

(3) Grant exceptions to the requirements of this directive and notify the Director of Safeguards and Security, promptly in writing, with a copy to the cognizant outlay program manager.

(4) Notify the Director of Safeguards and Security of the establishment of SNM facilities.

(5) Advise the Director of Safeguards and Security when site specific considerations dictate the use of equipment for which no DOE test data are available. The responsible operations office shall insure that the selection of equipment to be used is made to the extent possible based on data provided in appropriate DOE safeguards handbooks. If site specific considerations dictate that the system include components for which no DOE test data is available, the assistance of the Office of Safeguards and Security should be requested.

(6) Report immediately to the DOE Emergency Operations Center and to the FBI any information related to an actual, attempted, or suspected theft of SNM or any other circumstance indicating a violation of Federal law concerning such material.

(7) Evaluate and report to the Director of Safeguards and Security and to the cognizant outlay program manager any actual or attempted theft of SNM.

(8) Perform planning for funding and staffing to implement this directive.

(9) Conduct surveys and submit reports pertaining to SNM facilities and shipments to the Director of Safeguards and Security and to the responsible Headquarters outlay program manager.

(10) Establish and document, as appropriate, the support to be expected from local law enforcement agencies.

(11) Require overt testing of the physical protection system to verify the maintainance of a continuing high state of effectiveness against attack.

(12) Report annually by, December 1, to the Under Secretary, with copies to the Assistant Secretary for Defense Programs, the Inspector General, outlay program managers, and the Director of Safeguards and Security, on the state of safeguards and security of SNM under their responsibility.

g. Manager, Albuquerque Operations Office (AL).

(1) In addition to the responsibilities outlined in subparagraph 7f manages the DOE Transportation Safeguards System for the domestic shipments of nuclear explosives; Category I quantities of SNM, excluding naval reactor (NR) core shipments; classified configurations of Category II quantities of material as requested by responsible outlay program managers; and any form of Pu-238 in excess of five grams. (NR core shipment responsibility rests with the Pittsburg Naval Reactors Office [PNR]).

(2) Conducts surveys of SNM shipments under his jurisdiction or requests another DOE organization to conduct such surveys.

(3) Submits reports of surveys made pursuant to subparagraph 7g(2) to the Director of Safeguards and Security and to the responsible Headquarters outlay program manager.

(4) Operates the nationwide SECOM system in support of the DOE Domestic Transportation Safeguards System.

8. PROCEDURES AND REQUIREMENTS.

a. General.

(1) A facility shall not receive, use, process, or store SNM until an SNM facility approval, based upon a review of the safeguards and security plan and an on-site survey by the responsible operations office, has been granted.

(2) Continual vigilance shall be maintained for procedural violations or practices inconsistent with physical protection measures afforded SNM.

(3) Any unauthorized attempts, suspected attempts, or actual removals of special nuclear material from a protected area or material access area shall be reported immediately to the responsible DOE Safeguards and Security office.

(4) Reports, plans, and data relating to the protection and control of SNM shall be classified in accordance with Classification Guide CG-S-1, and other applicable classification guides.

b. Specific Requirements for Protected Areas.

(1) Protected areas shall be subject to a system of access controls administered by security inspectors who meet the standards contained in DOE 5632.1.

(2) A sufficient level of illumination shall be provided at all points on the perimeter to permit assessment in the event of unauthorized attempts to penetrate the protected area.

(3) A hardened security force communications center shall be established and shall have periodically tested radio and telephone channels of communication with local law enforcement agencies. There also shall be an emergency alternate communications capability from a secondary station for use in event the primary station is compromised.

(4) Radio communications equipment used in subparagraph 8b(3) shall remain operable in the event of a loss of primary electrical power.

(5) Private use vehicles shall be excluded.

(6) Security inspector posts, both mobile and fixed, shall be equipped with duress systems.

(7) Government-owned or Government-leased vehicles shall be admitted only when on official business and when operated by properly cleared and authorized drivers or who are under escort by properly cleared and authorized personnel.

(8) Service and delivery vehicles shall be admitted to protected areas only when on authorized business and when driven or under escort by properly cleared and authorized personnel. Access by such vehicles shall be kept to a minimum consistent with operational requirements.

(9) Personnel, packages, briefcases and similar containers, and all vehicles shall be subject to search at the entrance to a protected area. The search on entering, when performed, may be made with DOE-approved detection equipment designed to assure that explosives, weapons, or other prohibited articles are not introduced. (ALO/TSD personnel and equipment shall be exempt from this requirement when on official business).

(10) A search of personnel, packages, briefcases and similar containers, and all vehicles shall be made prior to leaving a material access area or protected area to assure that SNM is not being surreptitiously removed. The search may be carried out by using DOE-approved detection equipment. Detection equipment may be installed at material access areas, or at protected area exits if special control measures have been implemented to close unguarded diversion paths.

(11) Signs prohibiting trespassing shall be posted on the protected area fences. Appropriate reward signs, and signs prohibiting the introduction of contraband articles and authorizing the searches of personnel, packages, briefcases and similar containers, and vehicles either entering or exiting shall be posted at entrances to protected areas and material access areas.

(12) Perimeter intrusion alarm systems or equivalent means of providing early detection shall be used at the perimeters of protected areas or material access areas.

(a) As an alternative, until a protected area or material access area can be placed under perimeter alarm protection (or its equivalent), it shall be occupied by at least two security inspectors who shall have immediately available one or more DOE-approved night vision devices, and at least two means of communication (i.e., telephone and radio) to a point from which response forces can be dispatched.

(b) During times when the perimeter alarm or equivalent is not in operation, the perimeter shall be patrolled (on a random basis) by security inspectors at intervals not exceeding 1 hour.

(13) All detection/alarm devices, including transmission lines to annunicators shall be failure, and tamper-indicating. Such devices shall be connected to monitor/display panels in the hardened security force communications center required in subparagraph 8b(3). An alternate alarm annunciation point (or a comparable alternate capability) shall be provided in a location which is continuously manned by cleared personnel and which provides a second indication of an alarm such that a response can be initiated in the event the primary station is compromised.

(14) All security related subsystems and components shall be maintained in readily operable condition, and shall have a test and maintenance program to assure an effective operable condition.

c. Specific Requirements for Material Access Areas.

(1) Unoccupied rooms or buildings (or a portion of a building) within a material access area containing Category I quantities of in-process SNM shall be equipped with DOE-approved intrusion alarm systems, or other equally effective means. Protection of Category II and Category III quantities of SNM located within a material access area should be in accordance with the requirements of 8f or 8h, respectively. Security Inspector response time to alarms shall be not more than 5 minutes. Access to such rooms shall be controlled to limit entry to appropriately cleared or escorted individuals who require admittance to perform their official duties.

(2) Category I quantities of SNM shall be stored in SNM vaults; or in a security room which is equipped with DOE-approved

intrusion alarm systems; with a security inspector response time of not more than 5 minutes.

(3) SNM shall be in storage or under material surveillance procedures, or protected in accordance with subparagraph 8c(1), above.

(4) A hardened security post shall be established where the protection of the security inspector is vital to the reporting of unauthorized penetration of the area perimeter alarms. This may be located within or on the perimeter of the protected area.

(5) Records shall be maintained of all persons who are admitted to material access areas who are not directly employed in operations involving access to, use, processing, storage, accountability, or protection of SNM and of all persons who enter such areas during nonoperating hours.

d. Protection of Category I Quantities of SNM - In Use or Storage.

(1) Category I quantities of SNM shall be used, processed, or stored only within material access areas enclosed within a protected area.

(2) Any person in a position to divert or to conceal the diversion of Category I quantities of SNM shall possess a DOE "Q" security clearance. Uncleared persons may be permitted access to a protected area only under escort of an "S," "L," "TS," or "Q" cleared individual and to a material access area only under escort of a "Q" cleared person. (Note: Equivalent clearances may be used subject to individual determination.)

(3) SNM facilities holding Category I quantities of SNM shall be surveyed to evaluate the adequacy of physical protection provisions at least annually. In addition, surveys should be conducted as often as is necessary to maintain a high standard of performance as determined by the responsible operations office manager. Reports of surveys shall be furnished promptly to the Director of Safeguards and Security and to the responsible outlay program manager.

e. Protection of Category I Quantities of SNM and Classified Configurations of Category II Quantities of SNM - In Transit.

(1) Shipments of Category I Quantities of SNM and classified

configurations of Category II quantities of SNM shall be made by one of the following methods:

(a) Highway.

1 In locked and sealed safe secure trailers (SST), towed by special tractors, accompanied by at least six ALO/TSD couriers. All convoy vehicles will be driven by ALO/TSD couriers.

2 Tractors and escort vehicles shall maintain intra convoy communication with VHF radios and two-way communication with the SECOM Control Center with HF (SECOM) radios.

3 The vehicle containing the shipment shall be continuously guarded during the trip.

4 All shipments shall be made without intermediate stops, except for emergency reasons, driver relief, meals, refueling, or to transfer cargo.

5 At least one escort vehicle will accompany each shipment.

6 Shipments of individual units containing Category "I" quantities of SNM which weigh over 5,000 lbs. may be transported using conventional or flatbed trailers in accordance with a special plan approved by the Manager of AL, (or Manager of PNR for NR core shipments) after coordination with the Office of Safeguards and Security.

7 Movements of Category "I" quantities of SNM between protected areas in the same site or between protected areas and loading areas at the same site, shall be escorted by couriers or security inspectors in a two-way radio-equipped vehicle. Such movements may be made by SST or security approved conventional vehicles.

8 Movements of Category "I" quantities of SNM within a protected area shall be under material surveillance procedures.

(b) Train. Nonweapons parts weighing less than 5,000 pounds, but more than 1,000 pounds per unit must be shipped in locked and sealed rail cars accompanied by at least three DOE couriers. Individual units (excluding nuclear weapons or devices) weighing over 5,000 pounds can be shipped on flatcars accompanied by only one courier. Couriers accompanying train shipments shall utilize SECOM communications.

(c) Air Transportation. If not otherwise prohibited by statute or implementing instructions, air shipments may take place in aircraft owned by DOE or under DOE contract, with the material in the custody of at least two ALO/TSO couriers with pilot(s) and other crew members possessing "Q" access authorization. The cargo when in their custody, shall be under the direct observation of the couriers during all land movements and loading and unloading operations.

(2) There shall be a detailed search of the transport vehicle prior to loading and shipment to ensure that sabotage devices (that could facilitate theft of the SNM) have not been implanted or that sabotage has not been initiated, and that unauthorized persons are not aboard.

(3) Written procedures approved by the responsible operations office shall be followed by courier personnel responsible for the shipment of SNM.

(4) Courier Receipt, Form DOE-60, or equivalent shall be executed at all points where the SNM in-transit changes custody.

(5) Shipments shall be scheduled in irregular patterns and preplanned to avoid areas or routes having high risk and areas of natural disaster or civil disorders, such as strikes or riots.

(6) Couriers shall maintain continued vigilance for the presence of conditions or situations which might threaten the security of the shipment, take such action as circumstances might require to avoid interference with continuous safe secure passage of the cargo vehicle, provide assistance to or summon aid for the crew of the cargo vehicle in case of emergency, check seals or locks at each stop where time permits, and observe the cargo vehicle and adjacent areas during stops or layovers.

(7) In an emergency, where SNM is transferred from one vehicle to another outside of protected areas, the DOE couriers accompanying the shipment shall keep the shipment under surveillance by observing the opening of the cargo compartment of the original vehicle and all phases of the transfer, assuring that all the material is included in the second vehicle, and checking locks and seals.

(8) When SNM is transferred from storage to a vehicle or vice-versa, at least two security inspectors or couriers shall keep the shipment under surveillance. At least two couriers shall assure that the shipment is complete by checking locks, seals, and documentation, and by witnessing the opening or closing, as appropriate, of the cargo compartment.

(9) All persons who have access to the cargo, or control over it, including drivers, loaders, and handlers must possess a "Q" access authorization or an "L," "S," or "TS" access authorization and be under the surveillance of a "Q"-cleared employee.

(10) A multilevel continuous sampling audit of all recurring shipments of significant quantities of special nuclear materials under the jurisdiction of AL (those occurring more than five times a year) shall be made by the Albuquerque Operations Office to assure compliance with established security standards and procedures. Multilevel continuous sampling as applicable to this requirement is described in the DOD Inspection and Quality Control Handbook, H-106. The sampling plan in H-106 describes three levels of sampling (f = 1/3, 1/9, 1/27) and the criteria for changing sampling levels. During the initial period of implementing this survey concept, audits will be performed at frequency level 2 (1/9), until the Manager of AL determines that a high performance level has been achieved in keeping with the sampling plan, then audits will occur at frequency level 3 (1/27). Should a major discrepancy be found at the latter audit rate, the frequency of audits will return again to level 2 until a high level of performance is again achieved. The Manager of AL, will direct an increase in audit frequency for any portion of the system whenever, in his judgment, changes in personnel, equipment, risk, or procedures so indicate. AL will require approval of the Assistant Secretary for Defense Programs, or designee, for any deviation from this sampling plan. Audit reports requiring change of frequency due to detection of a major discrepancy will be forwarded to the Assistant Secretary

for Defense Programs or appropriate designees. Significant violations of procedures by couriers shall be reported immediately to the Manager of AL, and after evaluation to the Director of Safeguards and Security.

f. Protection of Category II Quantities* of SNM - In Use or Storage.

(1) Category II quantities of SNM shall be used, processed, and stored in a protected area. The protected area requirements specified in subparagraph 8b may be reduced subject to detailed justification contained in the approved site-specific safeguards and security plan.

(2)**Any person in a position which will permit him to divert or to conceal the diversion of Category "II" quantities of SNM shall possess a DOE "Q" security clearance. Uncleared persons may be permitted access to a protected area only under escort of an "S," "L," "TS," or "Q" cleared individual. (Note: Equivalent clearances may be used subject to individual determination.)

(3) SNM facilities holding Category II quantities of SNM shall be surveyed to evaluate the adequacy of physical protection provisions at least annually. In addition, surveys should be conducted as often as is necessary to maintain a high standard of performance as determined by the responsible operations office manager. Reports of surveys shall be furnished to the Director of Safeguards and Security and to the responsible outlay program manager on a timely basis.

(4) Unoccupied rooms or buildings (or a portion of a building) containing Category II quantities of in-process SNM shall be equipped with DOE-approved intrusion alarm systems, or other equally effective means. Access to such rooms shall be controlled to limit entry to individuals who require admittance to perform their official duties. Security inspector response time to alarms shall not be more than 10 minutes.

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* See Attachment I and Definitions, paragraph 6.

** The access authorization requirements of this paragraph shall be held in abeyance pending publication in the Federal Register of appropriate revisions to 10 CFR Part 710.

(5) Category II quantities of SNM shall be stored in vaults, security rooms, or security containers which are protected with DOE-approved intrusion alarm systems, with a security inspector response time of not more than 10 minutes.

(6) The SNM shall be in storage or under material surveillance procedures, or meet the conditions of subparagraph 8f(4).

g. Protection of Category II Quantities of SNM - In Transit. (See subparagraph 8e for in transit protection for classified configurations of Category II quantities of SNM.)

(1) Shipments of Category II quantities of SNM shall be made by one of the following methods:

(a) Truck.

1**Category II quantities of SNM may be shipped by government-owned or exclusive-use truck by commercial carrier in the custody of at least two escorts possessing "L" access authorizations or equivalent.

2 Cargo compartments of the trucks shall be locked and sealed.

3 Escorts shall maintain frequent periodic communication with a control station which can request appropriate law enforcement agency response.

4 Escorts shall maintain the shipment under surveillance during the trip.

5 All shipments shall be made without any intermediate stops (except for emergency reasons, and for driver relief, meals, refueling, or to transfer cargo in mixed modes of transportation, e.g., truck-to-train, etc.).

6 There should be a detailed search of the transport vehicle prior to loading and shipment to ensure that sabotage devices have not been implanted or that sabotage has not been initiated and that unauthorized persons are not aboard.

** The access authorization requirements of this paragraph shall be held in abeyance pending publication in the Federal Register of appropriate revisions to 10 CFR Part 710.

(b) Train.

1**Category II quantities of SNM may be shipped by train in the custody of at least two escorts possessing "L" access authorizations.

2 Cargo compartments shall be locked and sealed.

3 Escorts shall maintain frequent periodic communication with a control station which can request appropriate law enforcement agency response.

4 Escorts shall maintain the shipment under surveillance during the trip.

5 There should be a detailed search of the transport vehicle prior to loading and shipment to ensure that sabotage has not been initiated and that unauthorized persons are not aboard.

(c)**Air Transportation. If not otherwise prohibited by statute or implementing instructions, air shipments of Category "II" quantities of SNM may take place. The material must be attended by at least two escorts possessing "L" access authorization or equivalent. The shipments must be under the direct observation of the escorts during all land movements and loading and unloading operations.

(2) Procedures approved by the responsible operations office manager shall be followed by all personnel associated with the shipment.

(3) Form DOE-60, or equivalent, shall be executed at all points where the in-transit SNM changes custody.

(4) Route choice and schedule should be based on consideration to avoid areas of natural disasters or civil disorders and to provide the minimum number of cargo transfers and minimum length of transit time.

(5) Movements of Category II quantities of SNM within a protected area shall be under material surveillance procedures.

** The access authorization requirements of this paragraph shall be held in abeyance pending publication in the Federal Register of appropriate revisions to 10 CFR Part 710.

(6) Movements of Category II quantities of SNM between protected areas at the same site shall be under escort by at least one security inspector.

(7) Escorts shall maintain continued vigilance for the presence of conditions or situations which might threaten the security of the shipment, take appropriate action to avoid interference with continuous safe passage of the cargo vehicle, provide assistance to or summon aid for the crew of the cargo vehicle in case of emergency, check seals or locks at each stop where time permits, and observe the cargo vehicle and adjacent areas during stops or layovers.

(8) In an emergency, where SNM is transferred from one vehicle to another, at least two cleared escorts shall keep the shipment under surveillance by observing all phases of the transfer, assuring that all the material is included in the second vehicle, and checking locks and seals.

(9) Significant violations of procedures shall be reported immediately to the responsible operations office which shall, after making an evaluation, forward a written report to the Director of Safeguards and Security.

(10) Safeguards and Security field organizations shall conduct necessary transportation security surveys of carriers at least annually. Surveys will be coordinated with the cognizant field transportation office.

h. Protection of Category III Quantities of SNM - In Use or Storage.

(1) Category IIIA* Quantities of SNM.

(a) When unattended, Category IIIA quantities of SNM shall be secured within a locked DOE-approved security container or within a locked room.

(b) During nonworking hours the container or locked room containing the material shall be under protection of a DOE approved intrusion detection alarm system, or patrolled at intervals not to exceed 2 hours, or located in a protected area.

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* See Attachment 1 and Definitions, paragraph 6.

(c) Access to the material shall be limited to employees in positions which have been specifically designated by management as requiring access to Category IIIA quantities of SNM in the course of assigned duties and to authorized visitors who are under continuous escort of employees in such designated positions.

(d) Guard response to alarms shall be not more than 10 minutes.

(e) Packages, briefcases and similar containers, and all vehicles shall be subject to search by the individual controlling access to the use or storage area or to the protected area, if applicable. The search on entering shall be made to assure that explosives or other contraband are not introduced. Personnel and packages shall be subject to search upon leaving the use and storage area to assure that SNM is not being surreptitiously removed.

(f) Reward signs and signs prohibiting trespassing and the introduction of contraband articles and authorizing the searches of vehicles, packages, or persons either entering or exiting shall be posted at entrances to the use or storage area.

(g) SNM facilities holding Category IIIA quantities of SNM shall be surveyed to evaluate the adequacy of safeguards and security provisions at least every 2 years. Reports of inspections shall be furnished to the Director of Safeguards and Security and appropriate outlay program managers. In addition, surveys should be conducted as often as are necessary to maintain a high standard of performance.

(2) Category IIIB* quantities of SNM shall be received, used, processed, and stored in accordance with operations office approved safeguards and security plans.

i. Protection of Category III Quantities of SNM - In Transit.

(1) Shipments of all Category III quantities of SNM** may be made by one of the following methods: truck, rail, air, or water in commercial for-hire vehicles.

(2) Packages shall be sealed.

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* See Attachment 1 and Definitions, paragraph 6.

** If not otherwise prohibited by statute or implementing instructions, air shipments of Category "III" quantities of SNM may take place.

(3) Shipments, excepting shipments of laboratory analysis samples, shall be made under arrangements which provide the capability to trace and identify, within 24 hours of request, the precise leg of a journey where a shipment went astray in the event of its nonarrival at destination within the prescribed time frame.

(4) Advance notification of the estimated time of arrival to be received prior to dispatch, with written confirmation following not later than 48 hours after dispatch shall be provided by the shipper to the consignee.

(5) The consignee will promptly notify the shipper by telephone upon determination that a shipment has not arrived within a reasonable time and shall provide written confirmation of such notification.

(6) In the event that an exclusive use vehicle is required for other than safeguards and security reasons, the following provisions apply:

(a) The vehicle shall be given a detailed search prior to loading and shipment to ensure that sabotage devices have not been implanted or that sabotage has not been initiated.

(b) The vehicle shall be sealed and all seal numbers noted on the shipping papers.

(7) Shipments shall be made in accordance with all applicable Federal regulations.

FOR THE SECRETARY OF ENERGY:

William S. Heffelfinger
Director of Administration

Table I

PHYSICAL PROTECTION
CATEGORIZATION OF NUCLEAR MATERIAL

Special Nuclear Material	Category I*	Category II*	Category III-A**	Category III-B
Plutonium	2 kgs. or more	400-1,999 grams	220-399 grams	1-219 grams
U-233	2 kgs. or more	400-1,999 grams	220-399 grams	1-219 grams
Uranium-235 Contained in Uranium enriched to 20% or more.	5 kgs. or more	1,000-4,999 grams	350-999 grams	1-349 grams
Uranium-235 (Contained in Uranium enriched to less than 20%).	-	-	-	All quantities above .99 grams

* If Plutonium or U-233 is combined with U-235, the amounts of Pu or U-233 shall be multiplied by 2.5 to arrive at the limits shown.

** A plutonium and/or Uranium 233 content of less than 400 grams may be combined with Uranium 235 when the total content is less than 1000 grams.