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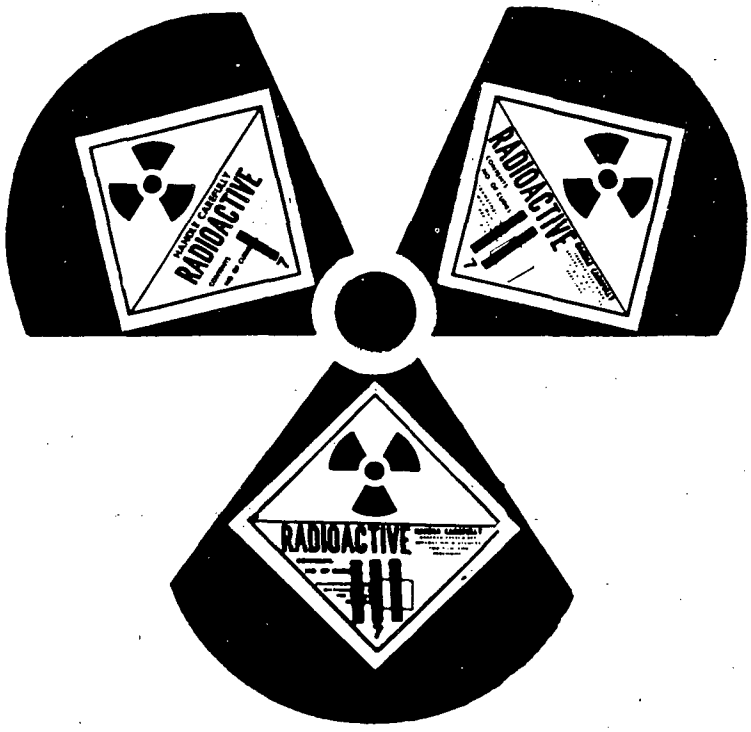

RADIOACTIVE COMMODITIES IN THE DoD SUPPLY SYSTEMS

APRIL 1985

DEPARTMENT OF DEFENSE
DEFENSE LOGISTICS AGENCY
Cameron Station, Alexandria, Virginia 22304-6100

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DEFENSE LOGISTICS AGENCY,
DEPARTMENTS OF THE ARMY, THE NAVY,
AND THE AIR FORCE
WASHINGTON, DC 19 Apr 85

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(Navy and Marine Corps supplementation is permitted.)
(Air Force supplementation is permitted.)

FOREWORD

This publication contains interservice policy, mandatory procedures and responsibility guidance for all activities and installations of the Military Services and the Defense Logistics Agency that are engaged in the development, training, procurement, storage, maintenance, control, shipment, and disposal of radioactive commodities. Nuclear reactors and nuclear weapons are excluded from this publication, except for components and ancillary equipment which are common to other end items of supply. This publication does not apply to users of radioactive commodities.

SIGNIFICANT CHANGES. Significant changes are throughout this publication to stratify changes for better control and processing of radioactive commodities in the DoD Supply Systems. It should be read in its entirety.

This publication will be revised periodically to reflect policy and procedural improvements and augmentations. The Chief, Depot Operations and Maintenance Division, Directorate of Supply Operations, HQ DLA (DLA-OW) is responsible for interservice coordination and revision of this publication, and will review and update as required.

BY ORDER OF THE DIRECTOR, DEFENSE LOGISTICS AGENCY, AND THE SECRETARIES OF THE ARMY, THE NAVY, AND THE AIR FORCE.

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CONTENTS

CHAPTER I. GENERAL PAGE

1-1. Purpose and Scope..... 1
1-2. Policy..... 1
1-3. Definitions..... 1
1-4. Responsibilities..... 4
1-5. References..... 6

CHAPTER II. RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

2-1. Research and Development Phase..... 9
2-2. Test and Evaluation..... 9
2-3. Specifications, Purchase Descriptions, and Drawings..... 9

CHAPTER III. LOGISTICS PHASE OF THE LIFE CYCLE CONTROLS

3-1. Control of Radioactive Material..... 11
3-2. Licenses and Service Authorizations..... 11
3-3. Procurement of Radioactive Materials..... 12
3-4. Quality Assurance and Inspection..... 14
3-5. Identification of Radioactive Items..... 14

CHAPTER IV. PROTECTION OF PERSONNEL HANDLING RADIOACTIVE COMMODITIES

4-1. General..... 15
4-2. Radiation Exposure Standards and Policy..... 15
4-3. Types of Hazards..... 15
4-4. Personnel Training..... 16
4-5. Radiological Emergencies..... 17
4-6. Emergency Assistance..... 18
4-7. Recommended Radioactive Contamination Action Limits and Levels 18

CHAPTER V. CONTROLS AND SPECIFIC HANDLING OPERATIONS

5-1. General..... 19
5-2. Transportation of Radioactive Materials..... 19
5-3. Shipping Activity..... 19
5-4. Packaging..... 20
5-5. Radioactive Shipments..... 20
5-6. Receiving Activity Responsibilities..... 20
5-7. Storage Areas..... 21
5-8. Inventory of Commodities at Supply Facilities and Stocking Activities..... 21
5-9. Control and Surveys of Storage/Warehouse Areas..... 22
5-10. Control and Survey of Radiation Areas..... 22
5-11. Maintenance..... 22
5-12. Surveillance..... 23

5-13. Markings and Warnings..... 23
5-14. Calibration of Radiac Survey Meters 23
5-15. Disposal..... 23

CHAPTER I
GENERAL

1-1. PURPOSE AND SCOPE. This publication contains interservice policy, outlines mandatory procedures, and identifies the responsibilities of organizational elements and key personnel worldwide which are necessary to effect radiation protection standards for the control of radioactive commodities under DoD cognizance. This publication does not apply to users of radioactive commodities; nuclear reactors and nuclear weapons, except for components and ancillary equipment which are common to other end items of supply; or unique radioactive materials used as research, test or production devices.

1-2. POLICY

a. Personnel exposure to ionizing radiation shall be kept as low as is reasonably achievable (ALARA) in accordance with DoDI 6055.8, Occupational Radiation Protection Program, and within Federal and applicable Military Service or Agency (hereinafter referred to as Service or Agency) radiation protection standards.

b. Personnel who are required to work with radioactive commodities or in radiation areas shall be instructed on potential hazards, on precautions to minimize exposure, and on operating procedures prior to being exposed to radiation.

c. Life cycle controls shall be established for each commodity containing radioactive material as early as possible in the development/design stage. Licenses and service authorizations, as applicable, shall be obtained by the responsible Service or Agency prior to awarding procurement contracts.

d. The use of radioactive materials in items of supply shall be kept to a minimum consistent with DoD needs. Practical, nonradioactive substitutes shall be procured and used when feasible. Radium shall not be procured or used until it has been established that a nonradioactive substitute or a less hazardous radioactive substance cannot feasibly be used.

e. The environmental consequences during each element of the life cycle shall be assessed in accordance with the National Environmental Policy Act (NEPA) and Federal and Service or Agency environmental assessment directives. This should be done at the earliest practicable stage in the planning process, including the development stage of a radioactive commodity and in all instances prior to the decision to procure the commodity.

f. This document does not waive any consumer protection or product safety requirements published or to be published by other Federal regulatory agencies.

g. Guidance contained in this document should be included in technical publications applicable to the operation, maintenance, storage, handling, transportation and disposal of radioactive material.

h. In accordance with DoDD 6050.8, Storage and Disposal of Non-DoD-Owned Hazardous or Toxic Materials on DoD Installations, the DoD is not to permit the use of DoD installations for the storage of non-DoD-owned toxic or hazardous materials.

1-3. DEFINITIONS

a. Airborne Radioactive Material. Any radioactive material dispersed in the air, in the form of dusts, fumes, mists, vapors, or gases.

b. Anticontamination Clothing. Protective clothing worn by an individual to prevent contamination of the individual or personal clothing with radioactive material.

c. Controlled Area. Any area in which radioactive material or radiation producing devices are used or stored and access to which is controlled for the protection of individuals from exposure to radiation.

d. High Radiation Area. Any area that is accessible to personnel in which radiation exists at such levels that a major portion of the body could receive a dose in excess of 100 millirem in any 1 hour.

e. Ionizing Radiation. Electromagnetic or particulate radiation capable of causing ionization in its passage through matter. Alpha, beta, and neutron particles, gamma and X-rays, are examples of ionizing radiation.

f. License Exempt Material Items. Items containing radioactive material not subject to Nuclear Regulatory Commission (NRC) regulations or radioactive material exempt from licensing by the NRC as specified in Title 10, Code of Federal Regulations (10 CFR).

g. Licensed Material. Radioactive material that is received, possessed, used, or transferred under a general or specific license issued by the NRC.

h. Life Cycle Controls. The composite of all management actions to assure that the credible hazards associated with possession and use of radioactive commodities are minimized. Such controls are established during each phase of the life cycle to assure that the effects of radiation on personnel and the environment are maintained within acceptable limits. Controls are established during the Research and Development phase to assure that introduction of radioactive commodities into the supply system are held to an absolute minimum consistent with mission requirement; and special capabilities, facilities, and procedures for supply, transportation, maintenance, use, training, and disposal (including demilitarization) are or will be provided.

i. Naturally Occurring and Accelerator-Produced Radioactive Materials (NARM). Radioactive material not subject to NRC controls, however, the receipt, possession, use or transfer may require specific authorization by the Service or Agency.

j. Nonoccupationally Exposed Individual. An individual whose work is not normally performed in a controlled area and whose duties do not normally involve exposure to ionizing radiation; however, an individual may have reason to enter a controlled area in the performance of duties (messengers, deliverymen,[1/] maintenance workers, etc.). The exposure to ionizing radiation shall not be in excess of that allowed to any individual in the population at large.

k. Occupationally Exposed Individual. Synonym-Radiation Worker. An individual whose work is performed in a controlled area and whose duties routinely involve exposure to ionizing radiation.

l. Radiation Area. An area in which an individual could receive a radiation dose of 5 millirem or more in any 1 hour or 100 millirem or more in any 5 consecutive days. For practical purposes, a radiation area shall be considered to be any area in which the radiation intensity is greater than 2 milliroentgen per hour (mR/hr) but less than 100 mR/hr. Specific Service or Agency guidance shall determine which standard will prevail.

m. Radiation Incident. The unplanned loss or control of radioactive material.

n. Radioactive Commodity. An item of Government property composed in whole or in part of radioactive materials and to which a National Stock Number (NSN) or

[1/] For convenience in reading, standard pronoun gender usage will be followed in this manual. Where such pronouns as "he" or "his", etc., are used, it should be understood to include "she" or "hers", etc.

part number has been assigned. A radioactive commodity is any item in the DoD Supply System that contains radioactivity equal to or in excess of the quantities listed in 10 CFR, Part 20, Appendix C, or contains a specific activity greater than 0.002 microcuries per gram of radioactive material (49 CFR, Part 173.389) and is license exempt. These quantities are established so that control procedures will be published for the receipt, storage, use, maintenance, transportation and disposal.

o. Radioactive Devices. Radioactive devices are manufactured articles, such as instruments, clocks, electron tubes, apparatus or similar devices having radioactive materials (other than liquids) in a nondispersible form as a component part. For radioactive gases, the requirement for the radioactive material to be in a nondispersible form does not apply.

p. Radioactive Material. Any material or combination of materials which spontaneously emits ionizing radiation.

NOTE: Radioactive materials, as referenced above, include natural elements such as radium and accelerator-produced radionuclides and NRC-licensed material.

q. Radioactive Waste. Consists of any of the following:

(1) Property which has become contaminated to the extent that decontamination is economically unsound.

(2) Surplus radioactive material whose sale, transfer, or donation is prohibited.

(3) Radioactive material which is determined to be unwanted after having been advertised as being surplus.

(4) Waste, which is radioactive, resulting from production, possession, or use of radioactive material.

r. Radiological Safety, Radiation Protection or Radiation Safety Officer. An individual who is designated by the Commanders or Commanding Officers, or Directors of the Authorized Activity to provide consultation and advice on the degree of hazards associated with ionizing radiation and on the effectiveness of measures to control these hazards. This individual shall be qualified technically by virtue of education, training, and experience commensurate with the type and hazard of the radiation source(s) for which he will be responsible. The terms "Radiological Safety, Radiation Protection, Radiation Safety Officer" are not intended to denote commissioned status.

s. Services or Agency. Includes Army, Air Force, Navy, Marine Corps, and the Defense Logistics Agency.

t. Use of "Shall", "Will", "Should", and "May". In this publication the words "Shall" or "Will" are used in an imperative sense. "Should" is used in a recommendatory sense; "May" is used in a permissive sense. It may be necessary to use "Will" in cases where simple futurity is required, i.e., "Power for the motor will be supplied by the ship." Also, unless the context requires otherwise, words imparting the singular include the plural and vice versa.

u. Supply and Maintenance Facilities. Will include the following:

Army:	Class II Supply and Maintenance Facilities within CONUS and Overseas, and supply, procurement, maintenance and transportation activities at Class I installations.
Navy:	Any naval activity or fleet unit assigned responsibility to store, maintain or process subject material, such as Naval Supply Centers, or Depots, Naval Shipyards, etc.
Air Force:	Air Force Logistics Command, Air Logistics Centers.

Marine Corps: Marine Corps Logistics Bases.
Defense Logistics Agency: Defense Supply Centers and Defense Depots.

v. User. An individual or an organizational element that uses or operates a radioactive commodity item because of mission requirement.

1-4. RESPONSIBILITIES

a. Commanders of Research and Material Developing Agencies shall:

(1) Assure nonradioactive substitutes are used whenever feasible. Proposals to incorporate radioactive material into a commodity must consider the cost effectiveness and safety against the use of alternative methods to achieve project goals. The cost of decontamination, property restoration, and disposal shall be included in the cost effectiveness study. When radioactive materials are used all relevant documents describing the commodity shall indicate that the commodity is radioactive, the amount(s) of activity, and the radioisotope(s) involved.

(2) Assure sufficient testing has been performed and coordinated with health, safety and license managers to establish that the radioactive commodity is militarily useful and that proposed life cycle instructions are adequate.

(3) Develop safety criteria in design; and establish, in publications such as technical manuals and bulletins, specific safe procedures and physical standards pertaining to equipment and systems which they develop. Publications prepared shall be submitted to the NRC License and/or Service Authorization Manager for approval.

(4) Prepare maintenance allocation charts which designate allowable repair operations at each maintenance echelon, and indicating which repair echelons require a license or authorization.

(5) Prepare environmental and safety documentation to assess the safety and environmental consequences during the life cycle of the commodity. Safety documentation shall be in accordance with DoDI 5000.36, System Safety Engineering and Management, and MIL-STD-882.

b. Commanders of Training Agencies shall:

(1) Establish training courses for personnel who are responsible for following procedures as set forth in this manual.

(2) Incorporate the specific safe procedures and safe physical standards established by material developing agencies into applicable training curricula and training documents.

c. Commanders of Material and Supply Agencies shall obtain and administer required licenses or service authorizations permitting the use of radioactive commodities for which they have logistical responsibility, and shall designate the manager for each license or service authorization, except for Marine Corps, where licenses are maintained by the Deputy Chief of Staff for Installations and Logistics, HQ U.S. Marine Corps; and the Air Force, where licenses are maintained by the USAF Radioisotope Committee, HQ Air Force Medical Service Center (HQ AFMSC).

d. Commanders of Procuring Activities shall:

(1) Assure that appropriate NRC licenses or service authorizations have been obtained by the requiring Service or Agency prior to contract award.

(2) Obtain approval from the applicable NRC license or Service Authorization Manager through the Material Inventory Control Point before each procurement or reprocurement action to prevent violation of the limits and conditions of the applicable license or authorization.

(3) Assure that special procurement clauses and procurement documentation for radioactive materials are included in contracts for such commodities.

(4) Assure that procurement contracts require marking and labeling of radioactive commodities in accordance with MIL-STD-129.

(5) Assure that the data required by DoDI 6050.5, Hazardous Material Information System (HMIS), and the appropriate Service/Agency implementing regulations, are acquired and provided to the appropriate focal point cited in DoD 6050.5-M, DoD HMIS Procedures.

(6) Assure that provisions of 41 CFR, Part 50-204, Safety and Health Standards for Federal Supply Contracts, are included in all applicable Commodity Contracts.

e. Commanders of Material Inventory Control Points shall:

(1) Maintain records of quantities of radioactive commodities procured, bulk storage, and disposal as well as such other records which are required to be kept by the managers of the NRC license or service authorization.

(2) Assure radioactive material procurements do not exceed use, quantity or activity limitations imposed by licenses or service authorizations and that receiving agencies are properly authorized to receive the material under the conditions of the applicable license or service authorizations.

(3) Coordinate matters pertaining to radioactive commodities with the appropriate NRC License or Service Authorization Manager.

(4) Establish and maintain appropriate data to identify applicable items as radioactive. Radioactive identification data will be incorporated with item management data and disseminated through the supply cataloging system.

(5) Assure that the same NSN will not apply to both radioactive and non-radioactive items in the Federal Supply System.

(6) Assure that the same NSN cannot apply to functionally identical or like radioactive items having different radioisotopes.

(7) Assure commodities are identified, marked and labeled in accordance with MIL-STD-129. Note: (5), (6), & (7) do not apply to low level exempt items (e.g., electron tubes).

f. Commander, Defense Logistics Services Center shall assure that the Federal Cataloging System has the capability to assign different NSNs to items that meet the criteria of subparagraphs e(5) and (6).

g. Commanders of Material Maintenance Control Points are responsible for assuring maintenance performed on radioactive commodities is consistent with conditions of applicable licenses or service authorizations.

h. Commanders of Supply and Maintenance Facilities shall:

(1) Assure safe handling, storage, and shipment of radioactive commodities.

(2) Assure safe operation of repair and maintenance facilities handling radioactive components, where applicable.

(3) Report to Material Inventory Control Points discrepancies between data published (Service Technical Bulletin for Radioactive Commodities; MIL-HDBK-600; and DoD 6050.5-L or DoD 6050.5-LR) concerning radioactive commodities, and data determined by examination at the facility. Also report the discrepancy to the activity responsible for maintenance of the published data.

(4) Assure that commodities and/or end item received for repair/maintenance are marked in accordance with MIL-STD-129 prior to return to stock or use.

(5) Assure radioactive commodity storage areas are surveyed and monitored.

(6) Assure procedures are prepared for handling credible emergencies during receipt, storage, maintenance, and shipment.

(7) Report defective radioactive commodities to the Material Inventory Control Point.

(8) Comply with Service or Agency directives for the disposal of excess, surplus and condemned radioactive commodities and of radioactive waste.

i. Managers of NRC Licenses or of Service or Agency Authorizations shall:

(1) Coordinate, obtain, administer, review, amend, and maintain necessary licenses and authorizations for radioactive commodities managed by the command to which they are assigned.

(2) Provide information and guidance to all commanders specified in subparagraphs a through h above, with respect to limitations, constraints, and special data, conditions or procedures which affect the responsibilities of those commanders for each radioactive commodity.

(3) Monitor the various elements of the life cycle program of the radioactive commodities to assure compliance with conditions of the license or authorization.

(4) Assure that licensed or authorized material is only transferred to authorized persons or organizations.

(5) Assure proper disposition of radioactive materials and decontamination of areas is completed prior to license or authorization termination.

1-5. REFERENCES

a. Title 10, Code of Federal Regulations, Energy.

b. Title 29, Code of Federal Regulations, Section 1910, Occupational Safety and Health Administration (OSHA) Safety and Health Standards.

c. Title 32, Code of Federal Regulations, National Defense.

d. Title 40, Code of Federal Regulations, Protection of the Environment.

e. Title 41, Code of Federal Regulations, Part 50-204, Safety and Health Standards for Federal Supply Contracts.

f. Title 49, Code of Federal Regulations, Transportation.

g. DoD 4160.21-M, Defense Utilization and Disposal Manual (includes previously referenced DoD 4140.34-M, Defense Utilization Manual).

h. DoDI 5000.36, System Safety Engineering and Management.

i. DoDI 5100.52, Radiological Assistance in the Event of an Accident Involving Radioactive Material.

j. DoDD 5230.16, Nuclear Accident and Incident Public Affairs Guidance.

k. DoD 6050.5-M, DoD Hazardous Materials Information System Procedures.

l. DoD 6050.5-LR or DoD 6050.5-L, DoD Hazardous Materials Information System (Microfiche).

m. DoDI 6050.5, Hazardous Material Information System.

n. DoDD 6050.8, Storage and Disposal of Non-DoD-Owned Hazardous or Toxic Materials on DoD Installations.

o. DoD 6055.5-M, Occupational Health Surveillance Manual.

p. DoDI 6055.8, Occupational Radiation Protection Program.

q. DoDI 7730.12, Notification Procedures for Accidents and Significant Incidents Involving Nuclear Weapons, Reactors and Radioactive Materials.

r. MIL-STD-105, Sampling Procedures and Tables for Inspection by Attributes.

s. MIL-STD-129, Military Standard Marking for Shipment and Storage.

t. MIL-STD-882, System Safety Program Requirements.

u. AFR 71-4/DLAM 4145.3/TM 38-250/NAVSUP PUB 505/MCO P4030.19, Preparation of Hazardous Materials for Military Air Shipment.

v. AFR 127-4, Investigating and Reporting U.S. Air Force Mishaps, chapter 10.

w. AFR 160-132, Control of Radiological Hazards.

x. AFR 161-8, Control and Recording Procedures for Occupational Exposure to Ionizing Radiation.

y. AFR 161-16, Radioactive Materials Licenses and Permits.

z. AFR 161-28, Aerospace Medicine, Personnel Dosimetry Program and the USAF Master Radiation Exposure Registry.

aa. AR 385-11, Licensing and Control of Sources of Ionizing Radiation.

ab. DLAM 1000.1, DLA Safety and Health Manual.

ac. DLAR 1000.28/AR 40-14, Control and Recording Procedures for Exposure to Ionizing Radiation and Radioactive Materials.

ad. DLAR 4500.15/AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19, Reporting of Transportation Discrepancies in Shipments.

CHAPTER II
RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

2-1. RESEARCH AND DEVELOPMENT PHASE

a. The decision to use radioactive material in a commodity shall be based upon the benefits derived in terms of cost effectiveness and safety against that derived from the use of alternate material. Some of the major factors which shall be weighed are the extra costs involved in procurement, quality assurance, record-keeping, training, transportation, facility restoration, environmental consequences, disposal and auxiliary protective equipment encountered during bulk storage, maintenance, and use of radioactive material.

b. Use of radioactive materials shall be kept to the absolute minimum consistent with operational requirements. Nonradioactive substitutes shall be used whenever feasible from a cost effectiveness and operational point of view. Where substitution is not feasible, the least hazardous suitable type and form of radioisotope shall be used.

c. Use and environmental factors shall be considered in designing tests to establish and prove the military usefulness and safety of the item. Drop, shock, vibration, temperature extreme tests, altitude, and accelerated weathering tests such as those established in Title 10, CFR, section 32.101, as appropriate, should be used in the design tests. While the referenced tests are intended for luminous safety devices used in aircraft, most military equipment is subjected to similar extremes during normal use, storage, or transportation.

d. Technical letters, orders, manuals, specifications and other life cycle instructions shall be developed to assure all personnel engaged in the procurement, inspection, transportation, storage, use, maintenance, calibration, control, and disposal are aware of potential hazards, precautions to minimize exposure, operating procedures and their responsibility in the overall life cycle of the radioactive commodity.

e. Proposals, draft instructions, specifications, and needed auxiliary equipment shall be coordinated with affected DoD elements.

2-2. TEST AND EVALUATION

a. The adequacy of design and instructions shall be evaluated by an agency independent of the developer or of potential manufacturers.

b. The results of development tests, operational tests and other tests shall be summarized and forwarded to the appropriate commander of the material and supply command for incorporation into the application for the required license or service authorization.

c. Evaluations of the potential safety and health hazards of each item and system will be conducted throughout all development testing and operational testing, as established by Service or Agency directives.

2-3. SPECIFICATIONS, PURCHASE DESCRIPTIONS, AND DRAWINGS. Specifications, purchase descriptions, and drawings for radioactive commodities or components shall include:

a. Provisions of MIL-STD-129.

b. Notice to make a potential contractor aware of the possible need for an NRC or State license.

CHAPTER III
LOGISTICS PHASE OF THE LIFE CYCLE CONTROLS

3-1. CONTROL OF RADIOACTIVE MATERIAL. Control of radioactive material is necessary to minimize exposure of personnel. Since man cannot sense ionizing radiation, but must use instruments to detect and measure it, control requires procedures to ensure that those who receive, store, transport, use, and dispose of radioactive commodities recognize them as containing radioactive material and are knowledgeable of the hazards of ionizing radiation and methods of radiation protection. Control is in addition to accountability and may apply to expendable or other nonaccountable property. The degree of control to be exercised during any life cycle phase shall be appropriate for the types and quantities of commodities involved and for the kinds of operations to be conducted.

3-2. LICENSES AND SERVICE AUTHORIZATIONS

a. Pursuant to law, the NRC controls certain specified radioisotopes that are, or may be, incorporated in radioactive commodities. This control is exercised, only within the United States and its possessions, by issuance of licenses, inspections and publication of regulations. Each license contains specific restrictions and limitations. The provisions of each license shall be followed precisely, since violation risks revocation of the right of possession and use.

b. Federal activities and installations are not subject to the registration or licensing requirements of individual states, but are subject to the NRC rules and regulations as contained in Title 10, CFR. Developing, testing, manufacturing or storing radioactive materials, commodities or radiation-producing devices on DoD real estate must be with the concurrence of the Service controlling the real estate.

c. A Service or Agency authorization, if applicable, shall be obtained for those radioactive materials that are not under the control of a specific NRC license. Control is exercised in much the same manner as for an NRC license. The authorization serves the same purpose as the license, with various single, bi- or tri-Service Agency directives being used as regulations.

d. The Service or Agency having logistical responsibility for the radioactive commodity shall obtain the required license(s) or Service authorization(s) to permit the use of that commodity within the Service or Agency. DoD-wide distribution of a commodity shall be with the concurrence of all Services or Agencies concerned.

e. Documents that are required in making application for licenses or authorizations or amendments thereto shall be coordinated among all affected organizations prior to their submission for license or authorization. Such documents shall include the application, specifications, and control literature.

f. The Service or Agency shall ensure that NRC-licensed material and Service or Agency authorized material under its control are not transferred to unauthorized persons or organizations.

g. Applications for licenses or authorizations for use of radioactive materials in commodities are in addition to other prescribed procurement actions and procedures. Applications must be factual and complete to allow comprehensive review. They should not, however, include extraneous information which is not directly applicable to the item for which the application is made. Each initial application shall include:

(1) A complete description of the commodity, e.g., narrative description plus drawings, purchase description, or specifications.

(2) Procedures by which the DoD Services or Agencies shall assure that quality audits are performed to verify the manufacturer's and the accepting government inspector's testing.

(3) Detailed radiation protection procedures to protect DoD employees and the general public during the complete life of the commodity. The procedures shall include an abbreviated organizational chart of the key agencies and offices and enumeration of their responsibilities with reference to life cycle controls. Pertinent sections of implementing Service or Agency regulations, orders, instructions, manuals, and bulletins shall also be included or referenced (if available at reviewing Agency).

(4) Internal procedures for use within other DoD components authorized to use radioactive commodities. The receiving Service shall accept complete responsibility for providing the licensee with information concerning control, investigation, reports to the NRC, and enforcement. The NRC conducts all of its regulatory activities (licensing, compliance inspection, and enforcement) with the organization to which the license is issued.

(5) The total activity of each radioisotope, maximum radioisotopic content of each individual item, chemical form (as a compound); and physical state, of the radioisotope and its contaminates.

(6) Summary of significant research, development, test, and evaluation effort and results.

(7) Quality assurance procedures for surveillance and verification of quality and integrity of material throughout the item's life cycle.

(8) Control procedures applicable during the commodity life cycle. Special qualifications required of users shall be stated in the procedures. Consideration should be given to adoption of directives as bi- or tri-Service or Agency documents. Specific information should be provided for each handling activity, i.e., acceptance inspectors, surveillance inspector, supply (storage) and maintenance personnel, users, transportation and disposal personnel. The instructional material should be prepared so as to separate that required by each of the foregoing groups from each of the others. Life cycle control directives for naturally occurring or accelerator-produced radioactive commodities shall be as thorough as those that are required for commodities which have a specific license.

(9) Procedures for the distribution and control of the commodity among the Services or Agencies when the commodity is governed by a single license for more than one DoD element.

(10) Summary of controls for maintenance and repair.

h. Procedures for amendment or renewal of licenses are the same as those prescribed for the original license or authorization. Amendment or renewal applications shall include any provisions which are required for initial license applications but which were not submitted previously.

i. Unless the procuring Service or Agency already has developed the required procedural, safety, and environmental documents which must be submitted to obtain the required licenses and Service or Agency authorizations, the need to prepare such documents should be included in any contracts which involve research, development or supply of a radioactive commodity.

3-3. PROCUREMENT OF RADIOACTIVE MATERIALS

a. Insert DoD FAR Supplement (DFARS) 52-223-7000, in applicable contracts.

b. Current issue of DoD Item DI-H-1332( ), Radioactive Material Data, shall be included in all developmental contracts and in major end item procurements in which a contractor might incorporate radioactive materials.

c. Procurements or reprocurements shall be coordinated with the NRC License or Service Authorization Manager prior to initiation.

d. Potential contractors shall be advised of the possible need for an NRC or state license to manufacture the radioactive supply item being procured or reprocured.

e. Incorporate procurement safety and health procurement requirements into the contract.

f. Contracts involving radioactive materials are considered a hazardous items contract and the following special provisions shall apply:

(1) The Government reserves the right both before and after contract award to survey the prime contractor and any and all of the subcontractors which handle hazardous material to be certain the work areas which Government employees visit are safe. The contractor shall agree to insert such a requirement in each of his subcontracts.

(2) The contractor must possess a valid NRC or Agreement State License covering the radioactive material to be used. A copy of the NRC or Agreement State License and subsequent amendments shall be provided to the office responsible for procurement safety.

(3) A copy of the report of any inspection performed by the NRC, state, or any other Agency, during the length of the contract, must be furnished to the office responsible for procurement safety.

(4) Prior to award of any subcontract(s) involving radioactive material the contractor shall request the appropriate Contracting Officer to cause to be performed the required Pre-award Safety Survey of Plant(s) of any proposed subcontractor(s), and obtain Contracting Officer's consent to place subcontract in writing prior to the award of any subcontract(s).

(5) Government furnished facilities, materials and equipment contaminated with radioactive materials shall be decontaminated and restored to the condition in which received or in accordance with applicable Service or Agency regulations. The contractor should request guidance from the Contracting Officer. Responsibility and costs for restoration and disposal will be identified in the contract. Prior to final payment, the contractor shall certify in writing to the Contracting Officer that proper decontamination and disposal has been accomplished. The Government reserves the right to verify the adequacy of restoration and disposal.

(6) Report of Accident or Incident. The contractor shall provide a followup written report as required by Data Item Description No. DI-H-1329A listed on the DD Form 1423, Contract Data Requirements List, contained in Section M of the contract. Note the direction in Block 7 of DI-H-1329A, Accident or Incident Report, e.g., "accidents or incidents involving production or project stoppage shall be reported under DI-H-A-1006, 'HOTLINE' Telephone Report as well as this data item."

(7) Investigation of Accident/Incident. The Government reserves the right to investigate an accident/incident reported in accordance with DI-H-1329A.

(8) When appropriate the contractor shall prepare a contingency plan for use of Department of Energy (DOE) disposal facilities if commercial facilities become unavailable.

3-4. QUALITY ASSURANCE AND INSPECTION

a. Only personnel who have received formal training and who have demonstrated their ability to perform the required quality assurance testing will be used for the purpose of acceptance testing, verification testing, or quality audits. The criteria for assuring this is accomplished will be included in the applications for licenses and Service or Agency authorizations.

b. Quality audits will be performed to verify the supplier's and Government's acceptance inspectors testing. These audits will be conducted by random sampling of production lots and by person(s) who are independent of the contractor, any subcontractor, and the resident Government inspector. Sampling and testing shall conform to the requirements established in MIL-STD-105 and applicable Service or Agency directives.

c. Commodities can lose their integrity during storage and use, possibly releasing radioactive material and creating potentially hazardous situations. Surveillance and verification of a small random sample shall be conducted on radioactive commodities in storage and use to foresee the need for replacement. Quality assurance procedures will include instructions as to what will be done if one or more samples fail. Because such items may be hazardous, Service or Agency inspectors shall be adequately trained in the radiological aspects as well as other requirements of such commodities prior to this type of work assignment.

3-5. IDENTIFICATION OF RADIOACTIVE ITEMS

a. Detailed physical characteristics concerning the radioactive properties of specific supply items can be found in the various publications of the DoD Hazardous Materials Information System. The Service or Agency technical points of contact for this system are identified in DoD 6050.5-M. The item data are published in microfiche form in DoD 6050.5-L or DoD 6050.5-LR. The system is located at the Defense General Supply Center (DGSC) in Richmond, VA.

b. Logistical item identification data can be found in the Identification Listings (ILs) by Federal Supply Group or Class published by the Defense Logistics Services Center (DLSC).

c. Commodities or items containing radioactive materials should be marked or labelled in accordance with MIL-STD-129 to show that they contain radioactive material.

CHAPTER IV
PROTECTION OF PERSONNEL HANDLING RADIOACTIVE COMMODITIES

4-1. GENERAL. Control procedures shall be developed for the protection of DoD personnel handling radioactive commodities (e.g., shipment, inspection, storage, use, maintenance and disposal operations).

a. All organizations whose personnel handle radioactive commodities shall prepare standard operating procedures in coordination with designated medical service and radiation protection personnel. These procedures shall be tailored to the operation being performed and the type of commodities handled.

b. Section 206 of the Energy Reorganization Act of 1974 and related documents must be posted in accordance with Title 10, CFR 19, 20 and 21 or applicable Service or Agency directives.

c. Preplacement, periodic, and termination medical examinations shall be required of personnel in accordance with DoD 6055.5-M and Service or Agency directives.

d. Information about a radiation incident shall be released to the public in accordance with DoD 5230.16 and Service or Agency directives.

e. Controls are included in the technical literature for commodities as to which activities can perform what types of functions and the procedures, training and equipment required to do the work safely. The industrial hygienist, radiation protection officer, or safety officer can provide specific recommendations for the type of operations involved.

4-2. RADIATION EXPOSURE STANDARDS AND POLICY

a. The whole body radiation exposure limit for occupationally exposed individuals is 5 rem per year and for nonoccupationally exposed individuals (general public), the limit is 0.5 rem per year. No individual under 18 years of age or women known to be pregnant shall be occupationally exposed to radiation in excess of that allowed to any individual in the general population. Airborne radioactive concentrations shall not exceed the limits set forth in Title 10, CFR 20.

b. Personnel exposure to ionizing radiation shall be kept ALARA in accordance with DoDI 6055.8. Responsibility for minimizing radiation exposure and controlling radioactive materials rests with commanders and supervisors. This responsibility includes orientation and indoctrination of personnel who are subject to exposure to radiation; implementation of applicable directives and standing operating procedures, and provision for personnel dosimetry, medical examinations, and anticontamination clothing and equipment when required.

c. Contamination limits will be specified by Service or Agency directives.

4-3. TYPES OF HAZARDS. There are two types of radiation hazards, external and internal.

a. External radiation hazard is from ionizing radiation reaching the body from an external source. Some external radiation occurs naturally and is called background radiation. The hazard being considered here is additional to that from background and is caused by radiation from the commodities being handled.

(1) External exposure may be reduced by limiting time of exposure; increasing the distance between personnel and the source of radiation; and increasing the amount of source shielding.

(2) Individual personnel dosimetric device and area radiation detection, indication, and computation device shall be used as needed to verify that the procedures, instructions, and protective equipment are suitable for the hazard encountered.

b. Any radioactive material that enters the body is an internal radiation hazard. Radioactive material can enter the body by being eaten, inhaled or absorbed through the skin. If precautions are not taken, this could occur while handling leaking sources, repairing broken radioactive commodities, working in contaminated areas or in airtight storage areas containing leaking gaseous sources, and during accidents. The degree of hazard depends upon the amount and type of radioactive material and in which organs it is deposited. Control and prevention of contamination are the most effective ways to reduce internal hazards. Prohibit smoking, eating, drinking in areas where radioactive materials are handled. Storage of food, beverages, eating and drinking utensils, and cosmetics in controlled areas shall be prohibited. Wash hands and face upon leaving such areas. If there is a high probability of contamination occurring, other precautions to prevent radioactive materials from entering the body through the nose, mouth or skin include:

(1) Providing monitoring instruments with which the contamination can be located and with which personnel can assure they are free of contamination.

(2) Control dust by eliminating dry sweeping and by filtered ventilation systems. If vacuum cleaners are used they should be equipped with filters capable of removing 99.97 percent of particulates 0.3 micron or larger.

(3) Work areas can be designed to limit the spread of contamination and to facilitate decontamination by using smooth work surfaces with replaceable coverings (e.g., disposable absorbent paper).

(4) Anticontamination clothing such as coveralls, gloves, caps, and shoe covers can be used to protect the skin, hair or personal clothing. Anticontamination clothing should be colored or marked for purposes of control, e.g., monitoring, decontamination, and laundering.

4-4. PERSONNEL TRAINING

a. Personnel shall be trained as required by paragraph 1-2b. of this manual.

b. Each individual shall receive instructions in proper safety and health procedures to be used in the specific operation before being exposed to potential radiation hazards. Additional sources of training in radiation protection are obtained from the following sources:

(1) Department of the Army. Courses are announced in DA Pamphlet 350-10, U.S. Army Formal School Catalog. A separate circular announces training courses conducted by the Surgeon General.

(2) Department of the Air Force. Radiological safety is included in courses taught at Brooks AFB and Sheppard AFB. Additional information is contained in AFR 50-5.

(3) Department of the Navy. U.S. Naval Sea Systems Command Detachment, Radiological Affairs Support Office (RASO), Yorktown, VA 23691.

c. Emergency and security personnel shall be trained and equipped to cope with the radiological hazards that may be encountered in the performance of their duties.

4-5. RADIOLOGICAL EMERGENCIES

a. General

(1) The prime objectives of emergency action are the preservation of life and limb and protection of personnel from the radiation hazards. The secondary consideration should be the confinement of the contamination to the local area of the incident. Although no set rules are available to handle every conceivable incident, the proper use of the guidance furnished below will minimize the danger to personnel and property. If there is reason to believe that personnel may have been contaminated or overexposed, such persons shall be moved to an area where any necessary decontamination and medical assistance can be furnished.

(2) Prior plans shall be made in anticipation of radiological emergencies, in order to minimize exposure of personnel and spread of contamination. Such plans shall be written, coordinated, and rehearsed with all support organizations (fire, police, medical, maintenance, repair, damage control, and public information personnel) and transport carriers or ships to which the material is being tendered for transport. Particular procedures in the plan for any supply and maintenance activity shall depend upon the quantity and types of radioactive commodities that are stocked. Such applicable procedures that are adopted shall be written and distributed to support organizations listed above, supervisors, and foremen.

(3) Fire among or near radioactive commodities might produce airborne radioactive hazards. The smoke cloud and areas beneath it should be avoided by personnel, unless they wear complete anticontamination clothing and protective respiratory equipment. This may require evacuation of a sector of the activity, adjacent organizations, and even contiguous civil populations.

(a) Firefighting operations might disperse radioactive materials to areas which initially were not part of the incident site. The draining of liquids from firefighting operations should be properly managed and, when necessary, avoided by personnel, unless impermeable clothing is worn. Additional measures must be taken as necessary to cope with any resultant hazards.

(b) A perimeter cordon or controlled entry shall be formed as soon as possible to prevent access of unauthorized personnel. Size of perimeter cordon or method of controlled entry shall be dependent upon the radiological or other health hazard associated with the radiological emergency. All personnel leaving the area shall be monitored and decontaminated if necessary. No smoking, eating, or drinking shall be permitted within the perimeter.

(4) When personnel are seriously injured all other considerations (except fire, explosion, atmospheres immediately dangerous to life) shall become secondary until urgent first aid is given and help for rescue (if necessary) and evacuation are summoned. Unless there is a high risk to health, no injured or unconscious individual shall be moved until bleeding has been controlled; breathing is normal; the possibility of fractures has been assessed; and necessary splints applied.

(5) As soon as the immediate emergency is under control, a detailed radiological survey shall be conducted of the affected area(s). Provided that the spread of contamination has been halted, priorities can be assigned to decontamination parties working in contaminated areas. Those areas requiring control of

exposure time, shall be controlled by a trained radiological monitor. Assistance from outside source(s) may be required.

b. Emergency Procedures

(1) Emergencies will generally be in the nature of spills, fires, or explosions, by which radioactive materials can be dispersed or released. In case of emergency, the following procedures shall be followed:

(a) In the event of a fire, explosion, spill, or hazardous malfunction, notify all persons to evacuate the area at once.

(b) Notify the fire, police, and medical personnel, if appropriate, indicating involvement of radioactive material.

(c) Shut off heating and air conditioning equipment if airborne contamination is present to prevent the spread of contamination.

(d) Attempt to extinguish fires if radiological hazard is not immediately present.

(e) Notify the Radiation Safety Officer (RSO) and immediate supervisor.

(f) Monitor all persons involved in the emergency or control action.

(g) Following the emergency, monitor the area and determine the protective devices necessary for safe decontamination. The RSO will be available for this determination.

(h) Accidents or incidents involving radioactive material shall be investigated and reported in accordance with applicable Service directives.

(2) The installation commander or his representative shall notify local, county, or state authorities of the emergency as deemed necessary.

4-6. EMERGENCY ASSISTANCE

a. Emergency notifications and requests for assistance will be made in accordance with applicable Service or Agency directives.

b. Assistance beyond local capability in responding to an emergency, in the preparation of emergency plans and standing operating procedures may be requested through command channels from:

(1) For Defense Logistics Agency: HQ DA (DASG-PSP), Washington, D.C. 20310. Commercial 202-697-2796, Autovon 227-2796.

(2) For Department of the Army: HQ USAMC, ATTN: AMCSF-P, Alexandria, VA 22333. Commercial 202-274-9340, Autovon 284-9340.

(3) For Department of the Navy: Naval Sea Systems Command (SEA-644), Washington, D.C. 20362. Autovon 222-1223/1252, Commercial 202-692-1223/1252.

(4) For Department of the Air Force: Air Force Operations Center, HQ USAF/XOOOA, Washington, D.C. 20330. Commercial 202-697-0495, Autovon 227-0495.

4-7. RECOMMENDED RADIOACTIVE CONTAMINATION ACTION LIMITS AND LEVELS. Radioactive contamination action limits and levels will be in accordance with the applicable Service or Agency directives. If further assistance is needed contact the Service or Agency's Radiological Protection Safety Officer or see paragraph 5-13e.

CHAPTER V
CONTROLS AND SPECIFIC HANDLING OPERATIONS

5-1. GENERAL. This chapter provides preparers of control documents and of standing operating procedures with DoD guidelines applicable to transportation, storage, maintenance, and disposal of radioactive commodities.

5-2. TRANSPORTATION OF RADIOACTIVE MATERIALS

a. Transportation of radioactive materials shall be in accordance with applicable portions of:

(1) Title 10, CFR, Part 71 — US NRC Rules and Regulations.
(2) Title 39, CFR, Part 124.3 — US Postal Service Regulations for shipment by mail. (Postal regulations and publications on transport of radioactive material are available at your local post office.)
(3) Title 49, CFR, Parts 100-199 — Department of Transportation Regulations by rail, highway, air or water.
(4) Title 40, CFR, Parts 122, 124, 263 and 264, Hazardous Waste Management System.
(5) International Air Transport Association (IATA).
(6) DoD 4500.32-R, MILSTAMP, Chapter 4 and Appendix F.
(7) United Parcel Service (UPS) Guide for Shipping Hazardous Materials.
(8) Restricted Articles Tariff 6D.
(9) AFR 71-4/DLAM 4145.3/TM 38-250/NAVSUP PUB 505/MCO P4030.19.
(10) International Maritime Organization Technical Instructions.
(11) International Civil Aviation Organization Technical Instructions.
(12) International Atomic Energy Agency Regulations.
(13) MIL-STD-129.

b. Radioactive commodities may be loaded with other compatible cargo to economize on available equipment space. However, no radioactive materials will be loaded in the same vehicle, compartment or aircraft with shipments of foodstuffs, animals, nor with class A explosives or pyrotechnic materials. Particular care shall be exercised to separate radioactive materials from photographic film and supplies to prevent radiation damage to photosensitive supplies.

c. When an escort is required, those selected to accompany a shipment of radioactive material must be technically qualified and equipped to assure a high degree of safety and security for the shipment.

5-3. SHIPPING ACTIVITY

a. Radioactive commodities shall be consigned only to installations, agencies or individuals that are authorized by an NRC license or Service or Agency authorization to receive them and are known to have a capability for safe handling of the specific commodity. Inventory control point instructions for shipment shall be consistent with this requirement.

b. Shipping documents for radioactive commodities shall meet the requirements of the appropriate documents listed in paragraph 5-2a. Depending upon the individual commodity and the degree of control required, preparation and submission of additional documentation for intransit control purposes might be necessary.

c. Shipping packages containing radioactive material shall be inspected for damage, leakage, and radiation levels before offering to carrier.

d. The consignor is responsible for assuring that all shipments of radioactive commodities are properly packed, packaged, marked, labeled and certified to reduce the potential radiation risk to personnel.

5-4. PACKAGING

a. When it is necessary to repackage radioactive commodities because of loose issue or damage to the original container, the commodity shall be repackaged in accordance with instructions in the directives or regulations cited in paragraph 5-2, or to conform with the original package. The original container shall be opened and repacked carefully, and shall be monitored. Packaging and repacking operations, including radiation monitoring, shall be carried out in a controlled area in the presence of qualified radiation protection personnel.

b. Containers shall be marked, labeled, and certified in accordance with the applicable documents listed in paragraph 5-2.

5-5. RADIOACTIVE SHIPMENTS. References cited in paragraph 5-2 regulate shipment of radioactive commodities by the U.S. Postal Service and Commercial Carrier originating in the United States. The International Atomic Energy Agency and International Civil Air Organization (ICAO), Technical Instructions for the Safe Transport of Dangerous Goods by Air, and International Maritime Organization (IMO) and International Maritime Goods Code are used by foreign governments and overseas air and ocean transport.

5-6. RECEIVING ACTIVITY RESPONSIBILITIES

a. Receiving activities shall establish procedures for the pickup, receipt, monitoring, opening, recording, and reporting radioactive commodity shipments in accordance with Title 10, CFR, section 20.205 and 20.401, or as indicated by Service or Agency directives.

b. As soon as a radioactive commodity is located in an incoming shipment, it shall be monitored with appropriate instruments to determine existence and magnitude of radiation hazards. When the exterior container of radioactive material shows signs of damage or leakage upon removal from the transport vehicle, the vehicle shall be monitored for contamination. A contaminated vehicle should be decontaminated below levels cited in Title 49, CFR, section 173.443. Where contamination is noted, and when more than one carrier is involved in a particular shipment, the receiving activity shall initiate action to inform previous carriers of potential contamination of transport vehicles and the need for possible radiation surveys.

c. Should a container be leaking, it shall be resealed in the presence of qualified radiation protection personnel. When the cause of leakage has been determined, e.g., packaging deficiency or damage in transit, one of the following forms shall be prepared:

(1) Standard Form (SF) 364, Report of Discrepancy (ROD) (DLAR 4140.55/AR 735-11-2/NAVMATINST 4355.73B/AFR 400-54/MCO 4430.3).

(2) SF 361, Discrepancy in Shipment Report (AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19/DLAR 4500.15). Radiological safety assistance may be required in preparing these forms to prevent needless exposure of personnel who investigate the deficiency.

5-7. STORAGE AREAS

a. Open storage, as used in this publication, may also include a shed or covered storage structure with one or more sides fully open. Open storage should only be used when:

(1) The radioactive commodity is a component of an item that is authorized storage under Service or Agency directives or as required by the license or authorization.

(2) The radioactive commodity is a component part of an end item that is designed for outdoor use, e.g., trucks, tanks, and other vehicles. Open storage may necessitate measures to prevent unauthorized entry.

b. Areas used for storage of radioactive commodities shall be kept to the minimum for adequate control.

c. Radioactive commodities shall not be stored in the same warehouse section with explosives, flammable materials, photosensitive items (e.g., photographic film), food products or other incompatible commodities unless provided for and approved by the appropriate Service or Agency.

d. Commodities that contain radioactive gases or radium should be stored in ventilated structures.

5-8. INVENTORY OF COMMODITIES AT SUPPLY FACILITIES AND STOCKING ACTIVITIES

a. The Material Inventory Control Point, in cooperation with supply personnel, shall maintain inventory records identifying distribution of radioactive commodities. These records shall be maintained at each supply and stocking facility. The following information shall be included in the record: transaction date; NSN; Special Item Control Code (SICC); radioisotope(s); chemical and physical form; original activity (e.g., millicuries, microcuries) per item and date determined; storage location; number of items received and transferred; document number of shipment or receipt; balance of items at conclusion of the transaction; and the license or authorization number.

b. Physical inventory count shall be made at least annually to ensure accuracy of inventory records. Containers shall not be opened for this purpose. Any discrepancies noted will be provided to the inventory organization for further count and adjustment of records, as appropriate.

c. The supply and, where appropriate, the stocking activity shall establish a computer inventory program for radioactive commodities. The program should have the following minimum capabilities:

(1) Printout of all radioactive commodities in storage by NSN, SICC and name, and if available, quantity, radioisotope, activity, location, and status. The Radiological Protection Officer shall be able to obtain this printout upon request, and distribute to emergency support elements as required.

(2) Wherever computerized stock records permit, retention of all radioactive commodities by NSN should be maintained in the computer, for the life cycle of the item in the DoD. Although stock levels are zero, access to specific data is required to process the return and/or ultimate disposal of the item.

(3) Coding to identify unauthorized or obsolete radioactive commodities.

(4) Mechanisms to update or correct any piece of information in the radioactive commodity computer inventory program.

d. Losses of radioactive materials shall be reported in accordance with instructions in control literature for that commodity, and as required by Service or Agency directives.

5-9. CONTROL AND SURVEYS OF STORAGE/WAREHOUSE AREAS

a. Storage locations for commodities containing radioactive materials shall be posted in accordance with the provisions of Title 10, CFR, sections 20.203 and 20.204, or as indicated by Service or Agency directives.

b. Radiation protection surveys shall be made at least annually of storage/warehouse radioactive areas or more frequently as directed by Service or Agency directives to determine:

(1) Location and extent of radioactive contamination and radiation levels, appropriateness of boundaries, signs, markings, and protective equipment and procedures.

(2) Corrective action required to protect personnel and property and to conform with regulations.

c. More frequent surveys could be necessary based on the quantity, type, radiation characteristics, stock activity, warehouse operations, and guidance in the technical literature pertaining to the commodity.

d. Results of surveys shall be reported to operating supervisors with recommendations for corrective actions as necessary. Records of surveys shall be maintained by the Radiological Protection Officer and shall include results, instruments used, name of surveyor, corrective actions taken, and dates.

e. Closeout radiation surveys shall be made and documented for all storage and maintenance locations when operations involving radioactive commodities have terminated.

5-10. CONTROL AND SURVEY OF RADIATION AREAS

a. Work procedures within these areas shall be regulated to minimize radiation exposures.

b. Frequency of surveys shall be based on radioactive commodity inventory, stock activity, radioactive characteristics of the commodity, and guidance in technical literature that pertains to that commodity but shall be done at least annually. The Radiological Protection Officer shall maintain records of each survey. Records shall show radiation levels that existed at the time of survey in each accessible location, instrument used, and name of surveyor and any corrective actions taken.

5-11. MAINTENANCE

a. Only authorized maintenance shall be performed, and maintenance allocation charts shall be available for review.

b. During maintenance, actual contact with the exposed radioactive material may occur. Consequently, maintenance shall be performed only by installations having the necessary authority (NRC license or Service authorization), facilities, trained personnel, radiac and protective equipment, and operating procedures.

c. Prior to completion of the maintenance, radiation markings and safety configurations shall be restored, if applicable.

d. The frequency of radiological surveys shall be determined by the type of use of the work area. Assembly and repair areas shall be surveyed by radiological protection personnel at least quarterly during periods of use.

5-12. SURVEILLANCE. Surveillance procedures and testing shall be conducted as specified in life cycle control literature and appropriate Service or Agency requirements. The Inventory Control Point will assure accomplishment of required surveillance and will report results to the cognizant NRC license or Service or Agency Authorization Manager.

5-13. MARKINGS AND WARNINGS

a. Warning signs designating radioactive material areas, radiation areas and high radiation areas shall be placed at each entrance and other locations surrounding such areas clearly identifying the hazard that exists within the area. Signs, either permanent or temporary, should be securely fixed to the barriers, walls, fences, or ropes. Installations or activities located where non-English languages are prevalent should post signs that include a translation in those languages.

b. Storage locations of radioactive materials and commodities shall be marked in accordance with Title 10, CFR, part 20, or in accordance with Service or Agency directives.

c. Markings shall be in accordance with the provisions of MIL-STD-129, marking of containers to indicate radioactive material, throughout the DoD supply system, although some label modification may be necessary to conform with conditions that are not covered specifically in that publication.

d. In the case where a high radiation area exists for more than 30 days, the area must be equipped with a control device to energize a conspicuous visible or audible alarm in such manner that the person entering and the area supervisor are made aware of the entry, as required by Title 10, CFR, section 20.203.

e. Additional guidance may be obtained from:

(1) For Defense Logistics Agency: HQ DLA (DLA-OW), Alexandria, VA 22304-6100.

(2) For Department of the Army: HQ USAMC, ATTN: AMCSF-P, Alexandria, VA 22333-0001. Also see AR 385-30.

(3) For Department of the Navy: Naval Sea Systems Command, Detachment, Radiological Affairs Support Office (RASO), Yorktown, VA 23691.

(4) For Department of the Air Force: HQ AFMSC/SGPA, Brooks AFB, TX 78235.

5-14. CALIBRATION OF RADIAC SURVEY METERS. Radiac survey meters (health and safety survey meters) shall be calibrated at intervals established in Service or Agency directives.

5-15. DISPOSAL

a. General. Services and Agencies will determine which commodities and spare parts are radioactive. They will not report radioactive commodities to Defense Property Disposal Offices (DPDOs) unless the commodity has been determined to be safe for military and public use. Radioactive commodities must be screened in accordance with Federal Property Management Regulations (FPMR 101-14.1 and FPMR C-24) prior to being reported to the DPDO. If the commodity is controlled by an NRC or Agreement State license, the Disposal Release Order will state that transfer, sale, or donation is limited to licensed recipients. The Services and Agencies will assure that radioactive commodities to be sold, donated, or transferred are marked in accordance with MIL-STD-129 and free of contamination in excess of limits specified in Service or Agency directives. Radioactive commodities will not be physically moved to the DPDO but will be retained until shipping instructions

are received from the DPDO (DoD 4160.21-M, chapter IV, paragraph D, and chapter VI, paragraphs B33, B87, and B90).

b. Radioactive Waste Products

(1) Items which cannot be decontaminated or repaired and leaking items shall be disposed of by the Service or Agency as radioactive waste.

(2) Excess or surplus items containing radioactive material shall be disposed of as radioactive waste when licenses or Service authorizations require, or when the Inventory Control Point or owning activity determines that any other method of disposal is not in the best interest of the Government.

(3) All radioactive waste shall be disposed of in accordance with Service or Agency directives, Title 10, CFR, part 20, and burial site criteria if applicable.

c. Serviceable License Exempt Items Containing Radioactive Material.

(1) License exempt materials incorporated in major serviceable end items of equipment shall be disposed of by the DPDO in accordance with normal utilization, transfer, donation, or sales procedures. License exempt material shall be removed from unserviceable major end items by the Service or Agency and disposed of in accordance with Service or Agency directives.

(2) Unless indicated by Service or Agency directives, license exempt items not incorporated into major end items or equipment shall not be subjected to normal utilization screening procedures in accordance with DoD 4160.21-M, chapter VI, paragraph B33. These items shall not be physically moved to a DPDO nor will they be made available for donation or reported for sale. Items not utilized by other DoD components or transferred to Federal agencies will be disposed of as radioactive waste by the Service or Agency in accordance with applicable Service or Agency instructions.

(3) Microwave receiver protector tubes, marine navigation devices containing tritium gas, and any commodity containing radium sources may only be utilized within DoD or disposed of as radioactive waste in accordance with applicable Service or Agency instructions. Screening for utilization within DoD will be accomplished by the owning Service or Agency. These items shall neither be physically moved to a DPDO nor will they be accepted on the accountable records of a property disposal activity. These items are not authorized for donation or sale.

d. Serviceable Licensed Items Containing Radioactive Materials. These items shall be transferred, donated, or sold only to persons having a proper license to possess them. Only the item manager or owning activity will screen these items for utilization, transfer, and donation. Sales assistance shall be provided by DPDO as required. If the items cannot be utilized, transferred, donated, or sold, they will be disposed of by the Service or Agency as radioactive waste in accordance with Service or Agency directives, and Title 10, CFR, part 20. These items will neither be physically moved to a DPDO nor will they be accepted on the accountable records of a DPDO.

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ARMY REGULATION
No. 385-11

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, *1 May 1980*

SAFETY

IONIZING RADIATION PROTECTION
(Licensing, Control, Transportation, Disposal, and Radiation Safety)

Effective 1 May 1980 in accordance with 32 CFR 655.10

This regulation consolidates four Army publications on radiation protection. It supplements the US Nuclear Regulatory Commission (NRC) Rules and Regulations (Title 10, Code of Federal Regulations (CFR)) and transfers the control and licensing of Army radioactive materials from Deputy Chief of Staff for Logistics (DCSLOG) to the US Army Materiel Development and Readiness Command (DARCOM). It also incorporates the reporting requirements deleted from AR 725-1 and cancels the interim guidance in DRCSF-P letter, 15 May 1978.

Local limited supplementation of this regulation is permitted but is not required. If supplements are issued, Army Staff agencies and major Army commands will furnish five copies to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333; other commands will furnish one copy of each to the next higher headquarters. In addition, supplements pertaining only to chapter 4 will be sent to HQDA(DAPE-HRS), WASH DC 20310.

Interim changes to this regulation are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

		Paragraph	Page
CHAPTER 1.	GENERAL		
SECTION I.	INTRODUCTION		
	Purpose	1-1	1-1
	Applicability	1-2	1-1
	Explanation of terms	1-3	1-1
	Code of Federal Regulations (CFR)	1-4	1-1
	Objective	1-5	1-1
	Policy	1-6	1-1
	Waivers and exceptions	1-7	1-1
II.	RESPONSIBILITIES		
	US Army Materiel Development and Readiness Command (DARCOM)	1-8	1-2
	US Army Armament Materiel Readiness Command (ARRCOM)	1-9	1-2
	DARCOM major subcommands	1-10	1-2
	National Guard Bureau (NGB)	1-11	1-3
	The Surgeon General (TSG)(RCS NRC-1009)	1-12	1-3
	The Director of Safety (DAPE-HRS)	1-13	1-3
	Military Traffic Management Command (MTMC)	1-14	1-3
	Federal regulatory agencies	1-15	1-3
	Transportation, Energy, and Troop Support Agency	1-16	1-3
	Major Army commands	1-17	1-3
	Major field commands	1-18	1-4
	Major oversea commands	1-19	1-4
	Local commands	1-20	1-4
	Point of origin commander	1-21	1-5

*This regulation supersedes AR 55-55, 12 November 1970; AR 700-52, 22 May 1968; AR 755-15, 4 November 1966; and TM 3-260, 2 August 1968, including all changes. It rescinds DA Form 2791-R, October 1970 and DA Label 135, October 1970. RCS NRC-1009 supersedes RCS AMC-191; RCS DRC-192 supersedes RCS AMC-192.

Encl 2

		Paragraph	Page
	Receiving activity commander	1-22	1-5
	Commanders responsible for radioactive material logistics	1-23	1-6
	Commanders having unwanted radioactive material	1-24	1-6
	Ionizing Radiation Control Committee (IRCC)	1-25	1-6
	Radiation Protection Officer (RPO)	1-26	1-7
	Radiation Control Officer (RCO)	1-27	1-7
	Local Radiation Protection Officer (LRPO)	1-28	1-8
	Licensees	1-29	1-8
CHAPTER 2.	LICENSING AND CONTROL OF IONIZING RADIATION SOURCES		
	NRC specific licenses	2-1	2-1
	DA radiation authorizations (DARAs)	2-2	2-1
	DA Radiation Permits	2-3	2-1
	Transfer and export of radioactive material	2-4	2-2
	Application for NRC specific license	2-5	2-2
	Direct Communication with the NRC	2-6	2-3
	Radioactive material controls	2-7	2-4
	Disposal	2-8	2-4
	Technical advice	2-9	2-4
	Radiation Health Surveys	2-10	2-4
	Inventory of radioactive materials	2-11	2-4
	Emergency planning	2-12	2-4
	Establishing an IRCC	2-13	2-5
	Reporting of incidents, accidents, and noncompliances	2-14	2-5
3.	INDIVIDUALLY CONTROLLED RADIOACTIVE ITEMS OF SUPPLY		
	General	3-1	3-0
	Controls	3-2	3-0
	Requisitioning, transfer, and disposal	3-3	3-0
	Reports	3-4	3-1
	Records	3-5	3-1
4.	TRANSPORTATION OF RADIOACTIVE AND FISSILE MATERIALS OTHER THAN WEAPONS		
	Transportation procedures	4-1	4-1
	Special Permits and exemptions	4-2	4-1
	US Mail and parcel post	4-3	4-2
	On-post movement by military vehicle	4-4	4-2
	Technical escorts	4-5	4-2
	Procedures for obtaining technical escort service from the USATEC	4-6	4-2
	Accidents and incidents	4-7	4-3
5.	DISPOSAL OF UNWANTED RADIOACTIVE MATERIAL		
	General	5-1	5-1
	Security	5-2	5-1
	Budgeting and funding	5-3	5-1
	Special problems	5-4	5-1
	Procedures to prevent enemy use	5-5	5-1
	Consolidation	5-6	5-2
	Storage	5-7	5-2
	Disposal of radioactive waste	5-8	5-2
	Excess, serviceable, or economically repairable items	5-9	5-2
	Empty radioactive material containers	5-10	5-3
	Requests for disposal of radioactive waste	5-11	5-3
	Replies to requests for land burial service	5-12	5-4
	Shipment	5-13	5-4
	Identification of radioactive commodities	5-14	5-4
	Disposal locally authorized	5-15	5-4
	Disposal at designated land burial facilities	5-16	5-5
	Interservice agreements	5-17	5-5
	Records	5-18	5-5
	Glossary		Glossary 1

Page

Tables
3-1. Radioactive Sources 3-2
3-2. Licenses, Licensees, and Control Points 3-3
4-1. Army Addresses and Emergency Telephone Numbers 4-4
4-2. United States Nuclear Regulatory Commission Regional Offices 4-6
4-3. Radioactive Contamination Guides 4-7

Figures
3-1. Radioisotope Inventory and Leak Test Report (RCS DRC-192) 3-1
3-2. Instructions for Preparing Radioisotope Inventory and Leak Test Report (RCS DRC-192) 3-4

CHAPTER 1
GENERAL

Section I. INTRODUCTION

1-1. Purpose. This regulation establishes policies and responsibilities for the licensing, control, transportation, and disposal of radioactive material, and ionizing-radiation-producing devices and their related hazards.

1-2. Applicability. *a.* This regulation applies to—

(1) All Department of the Army (DA) agencies, commands, and installations, (including the Army National Guard and the US Army Reserve) that procure, produce, use, store, handle, maintain, or dispose of radioactive materials or ionizing-radiation-producing devices.

(2) Civil Defense and Corps of Engineers Civil Works radioactive material when used or stored on an Army installation.

(3) Any non-Army organization wanting to store or use radioactive material or ionizing-radiation-producing devices on property under Army control.

b. This regulation does not apply to radioactive materials for—

(1) Medical use (see AR 40-47).

(2) Nuclear weapons (see AR 50-5).

(3) Nuclear reactor fuel and items made radioactive (activated) during reactor operation while under the direct control of the nuclear reactor staff. This regulation does apply, however, to activated material when transferred and to the nuclear reactor facility after the fuel has been removed.

1-3. Explanation of terms. *a.* Terms that apply to this regulation are found in the glossary.

b. Terms used by the Department of Transportation (DOT) are in 49 CFR 171-179. Those specifically related to transporting radioactive materials are in 49 CFR 171.8 and 173.389. Title 49 CFR is available at transportation offices under the title of R.M. Graziano's Tariff, as amended.

1-4. Code of Federal Regulations (CFR). Throughout this regulation reference is made to the CFR, which consists of 120 volumes, divided into 50 titles. Each title represents a broad area that is subject to Government control (for example, 49 CFR 170-190 refers to Title 49, Parts 170-190). These documents may be obtained from the Superintendent of Documents, US Government Printing Office, Washington, DC 20402. If there is a discrepancy between the CFR and this regulation, the more restrictive will be used.

1-5. Objective. The primary objectives of this regulation are to ensure—

a. Radiation protection responsibilities are given ample priority.

b. Plans and resources exist to cope with radiation emergencies.

c. Commitments made in obtaining licenses and radioactive material authorizations are fulfilled.

1-6. Policy. *a.* Military and civilian employees within the United States or overseas will be afforded radiation safety at least equal to that required by 10 CFR 19 and 20.

b. Federal, State, and local transportation laws, ordinances, and regulations apply to military shipments within or returning to the United States. Safety procedures for moving radioactive cargo will require protection equal to, or greater than, that required in interstate commerce.

c. Overseas, the standards of a nation a shipment moves through apply. The level of protecting a shipment will be the same as that required in the United States.

1-7. Waivers and exceptions. Except as otherwise noted, requests for waivers to this regulation and exceptions to Federal regulations will be sent through command channels to HQDA(DAPE-HRS), WASH DC 20310, with a copy to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333.

Section II. RESPONSIBILITIES

1-8. US Army Materiel Development and Readiness Command (DARCOM). CG DARCOM will—

a. License and control radioactive material and ionizing radiation sources (chap. 2).

(1) Issue Army approval of DA radiation permits, DA radioactive material authorizations, and applications for Nuclear Regulatory Commission (NRC) licenses.

(2) Ensure subordinate elements fulfill their responsibilities as managers, suppliers, and users of radioactive items.

b. Provide technical support, develop policy guidance, and coordinate with DA on the safe movement of Army radioactive material.

c. Formulate policies and procedures for restoring or disposing of radioactive material and waste.

d. Provide technical assistance for special radiological disposal problems.

e. Resolve differences of opinion between supply points (listed in table 3-2) and other Army elements.

1-9. US Army Armament Materiel Readiness Command (ARRCOM). CG ARRCOM will—

a. Provide, on request, technical escorts to guard unwanted shipments of radioactive material.

b. Maintain records for DA on the type and quantity of radioactive items disposed.

c. Ensure Army contracts are fulfilled safely and economically.

d. Manage the Army contracts for burial of radioactive waste at licensed land burial sites in the United States.

e. Arrange for disposal of classified radioactive waste at land burial sites operated by the US Department of Energy.

1-10. DARCOM major subcommands. (MSCs) Commanders of DARCOM MSCs will—

a. Make sure enough testing has been done to determine if the radioactive product is militarily useful and the life cycle instructions are adequate.

b. Establish realistic life cycle controls equal to the hazards.

c. Publish guidance in supply and technical publications on protecting people, materiel, and property from radiation hazards. This is to comply with Federal and Army regulations.

d. Obtain and monitor licenses and permits required for assigned radioactive items.

e. Maintain records on the number of radioactive items procured, bulk stored, leak tested, and disposed of, as well as keep records required by the NRC license or Service authorization.

f. Ensure receiving agencies are permitted to accept the material under the terms of the license or Service authorization.

g. Ensure the purchase of radioactive material does not exceed the use, quantity, or limitations imposed on an activity by the license or Service authorization. Licenses and authorizations must be obtained before procurement is initiated.

h. Collect and keep data to identify items as radioactive. This data will be combined with item management data and issued through the supply cataloging system.

i. Provide published technical guidance and advice to all Army elements on obtaining, using, handling, disposing of, accounting for, and coping with the hazards of assigned radioactive items.

j. Maintain records of individually controlled radioactive items (para 3-5).

k. Coordinate transfers of responsibility for individually controlled radioactive items between—

(1) Contractors, depots, radiation material control points (RMCPs) and radioactive material disposal facilities.

(2) Various RMCPs.

l. Monitor the life cycle program for radioactive items to ensure compliance with the terms of the NRC license or Service authorization.

m. Ensure licensed or authorized material is not sent to unauthorized persons or organizations.

n. Fulfill the function of RMCP and assign a radiation control officer (RCO) to control radioactive items listed in table 3-1.

1-11. National Guard Bureau (NGB). NGB will—

a. Ensure that each National Guard installation or activity needing individually controlled radioactive items has an effective radiation protection program.

b. Use the DARCOM subordinate commands (see table 3-2) as its RMCP, if formal support agreements exist; if not, set up its own RMCP with an RCO.

c. Implement this regulation by following the necessary leak test, control, and reporting procedures required by references in table 3-1. Two copies of the leak test results will be sent to the responsible DARCOM MSCs listed in table 3-2.

1-12. The Surgeon General (TSG). TGS will—

a. Provide Cdr, DARCOM with comments and recommendations on health hazards of programs described in applications for licenses, authorizations, and permits.

b. Perform periodic radiological hygiene surveys at least once every 3 years at each Army installation or activity that has an NRC license or DA authorization or permit. A summary ((RCS NRC-1009) Summary of Army Ionizing Radiation Program Reviewing for CY 19) of each preceding calendar year's key findings and recommendations will be sent to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333 and to HQDA staff elements by 31 January of each year.

c. Conduct technical review of materiel, equipment, and facilities for the presence of health hazards.

d. Give medical advice, guidance, and assistance on health hazards connected with the disposal of unwanted radioactive materials. Requests for medical advice and assistance will be sent through command channels to The Surgeon General, HQDA(DASG-PCP-E), WASH DC 20310.

1-13. The Director of Safety (DAPE-HRS). The Director of Safety has staff responsibility for—

a. Supporting all Army safety activities.

b. Coordinating with Army staff agencies and commanders of major Army commands on all safety policy matters related to the transportation of radioactive materials.

1-14. Military Traffic Management Command (MTMC). Cdr, MTMC is the authorized representative of the military services in getting Department of Transportation special permits to move radioactive materials. MTMC monitors, evaluates, and guides the movement of radioactive materials (AR 55-162).

1-15. Federal regulatory agencies. The Federal agencies that govern the movement of radioactive materials in the United States are—

a. Nuclear Regulatory Commission (NRC). The NRC approves procedures and performance standards for packaging fissile materials and licensed quantities of radioactive materials. NRC regulations are in 10 CFR. NRC transportation requirements are in 10 CFR 20, 71, 72, and 73.

b. Department of Transportation (DOT). DOT regulates the shipment or movement of radioactive material in interstate commerce by rail, water, air, and public highway (except the US mail). DOT regulations are covered in 49 CFR.

c. US Postal Service (USPS). USPS regulates the transit of radioactive materials in the US mail. Postal requirements are published in the US Postal Manual (available at Military or US Post Offices).

1-16. Transportation, Energy and Troop Support Agency. The Director for Transportation, Energy, and Troop Support gives staff supervision and policy guidance for the movement and safety (AR 385-10) of radioactive material.

1-17. Major Army commands. Commanders of major Army commands will—

a. Establish at least one RMCP at the major command or commodity command level.

b. Appoint an RCO in writing for each control point and send 10 copies of the appointment with the appointeee's qualifications to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333.

c. Implement this regulation by following the necessary leak test, control, and reporting procedures required by references in table 3-1. Two copies of the leak test results will be sent to each of the appropriate DARCOM MSCs (see table 3-2).

d. Ensure each installation or activity needing individually controlled items has an effective radiation protection program. This program will consist of qualified users, a radiation protection officer (RPO), required radiac equipment, and adequate procedures and facilities.

It is the commander's prerogative to assign this mission and function organizationally within the command. This function may be assigned to the Logistics Office, Industrial Hygiene Activity, Chemical Office, Directorate for Industrial Operations, Safety Office, and so forth.

e. Ensure commands and installations have plans and resources for handling credible emergencies involving radioactive items including those listed in table 3-1.

1-18. Major field commands. Major field commanders will—

a. Prepare administrative procedures consistent with this regulation.

b. Designate in writing a command RPO.

c. Ensure that subordinate commanders they control have adequate radiation safety resources and take proper safety precautions.

d. Ensure that annual inspections are done to determine compliance with—

(1) Terms of NRC licenses.

(2) DA authorizations and permits.

(3) Federal and Army regulations.

e. Provide CG, DARCOM, on request, information needed for controlling and licensing radioactive material.

f. Establish command plans and resources to cope with credible emergencies, such as fires, floods, or thefts, involving radioactive items owned or used by their commands.

1-19. Major oversea commands. Major commanders overseas will—

a. Establish procedures for disposing unwanted radioactive material.

b. Ship radioactive waste for disposal to authorized land burial sites within the United States or to land burial sites overseas authorized by CG, DARCOM(DRCSF-P). For safety, economy, or other valid reasons, major oversea commanders will operate radioactive material processing facilities to consolidate waste shipment.

c. Publish procedures that list the command channels for coordination between activities wanting to dispose of radioactive waste and CG, ARRCOM. Offices selected as the go-between for this coordination will provide fiscal, transportation, and radiation safety guidance to subordinate activities.

d. Provide qualified escorts (para 4-5) for shipments of unwanted radioactive material within the oversea theater.

e. Conduct annual command inspections of radioactive material processing facilities and major storage areas within their respective areas.

1-20. Local commands. Local commanders that produce, handle, use, or dispose of radioactive material will—

a. Establish a formal radiation safety program consistent with Federal and Army regulations and with Status of Forces Agreements (SOFA). It is the commander's prerogative to assign this mission and function within the command. This function may be assigned to the Logistics Office, Industrial Hygiene Activity, Chemical Office, Directorate for Industrial Operations, Safety Office, and so forth.

b. Provide and maintain adequate resources to ensure safety of personnel, property, and the environment.

(1) Trained personnel

(2) Proper equipment, facilities, and procedures to handle emergencies

c. Obtain required licenses, authorizations, or permits before purchase, receipt, use, transfer, or disposal of radioactive materials.

d. Designate in writing an RPO, an alternate RPO and, when required, an ionizing radiation control committee (IRCC). A part-time duty assignment as an RPO has priority over normal duty assignments.

e. Provide a technical and administrative review and sign each application for an NRC license, DA authorization or permit, and every plan to use radioactive material and ionizing radiation sources. This ensures the adequacy and completion of each application and plan.

f. Enforce steps prescribed by the NRC and DA for the safe use, control, and disposal of radioactive materials, and report and correct safety defects and noncompliances (10 CFR 19, 20, and 21). If the provisions of each license, permit, or authorization are not followed, violations could—

(1) Cause grave risk to the health and safety of the public and personnel of the installation or activity.

(2) Lead to loss of license or to other restraints (including fines).

g. Advise all non-Army agencies wanting to use radioactive materials on Army property of the requirements of this regulation. This includes the need to acquire an Army permit. All Army contracts and leases will contain the requirement to restore Army property to NRC unrestricted use criteria. This regulation will be referenced as the authority.

h. Maintain an inventory of radioactive materials and of ionizing radiation producing devices under their command.

i. Continue to fulfill obligations of NRC licenses until relief is given through an amendment to the license. Licensed applicants will coordinate applications with involved major Army commands or specific field activities to inform them of the responsibilities the amended license will impose.

1-21. Point of origin commander. The commander at the point of origin for a radioactive shipment will—

a. Ensure the consignee is authorized by a proper NRC or Agreement State license (if required) to receive the shipment.

b. Arrange the movement of radioactive material (see AR 55-16, AR 55-162, and AR 55-355).

c. Coordinate with civil law enforcement agencies when help is needed to move and route radioactive shipments.

d. Comply with host nation transportation requirements or transportation SOFAs, whichever is more stringent.

e. Arrange for technical escorts, when required.

f. Inspect and survey vehicles and cargo.

g. Package, label, mark, block, and brace radioactive material for shipment and prepare the shipping documents.

1-22. Receiving activity commander. The commander of the receiving activity will—

a. Accept, off-load, survey, inspect, and acknowledge receipt of shipment.

b. Arrange for receipt or quick pickup of packages containing amounts of radioactive materials in excess of Type A quantities (see 49 CFR 173.389-173.390).

c. Pick up incoming packages of radioactive material within 3 hours of notification by the carrier, when practicable.

d. Monitor each package of radioactive material within 3 hours after receipt (except packages exempt by 10 CFR 20.205) during normal working hours or within 18 hours if received after normal working hours and document the results. Even though 10 CFR 20.205 exempts certain packages from immediate monitoring, all packages of radioactive materials should be monitored before they are opened.

e. Notify at once the carrier delivering the materials if external radiation or radioactive contamination in excess of that specified in 10 CFR 20.205 or in 49 CFR 173.397 is detected.

f. Inform the NRC regional office (see table 4-2) by telephone or telegraph when the external radiation or radioactive contamination exceeds that listed in 10 CFR 20.205.

g. Notify the appropriate Army command (see table 4-1) when—

(1) A radiological accident happens in transit, which is reportable under AR 385-40.

(2) A host nation, Federal or State agency, or delivering carrier must be notified of radioactive contamination caused in shipment or by an incident involving the transport of radioactive materials. (See 10 CFR 20.205, 20.403, 20.405, 73.30, 73.36; 46 CFR 171.15 and 171.16; and 29 CFR 1910.96(1); and appropriate host nation or agreement state requirements.)

h. Notify the NRC licensee of radiation incidents occurring in transit if the licensee must report them to the NRC. (See 10 CFR 20.205, 20.403, 20.405, 71.61, 73.31, and 73.36.)

1-23. Commanders responsible for radioactive material logistics. Commanders or managers logistically responsible for radioactive items will—

a. Ensure the technical literature on the item includes—

(1) Amount and type of radioactive material contained

(2) Safe handling, storing, and disposal procedures

(3) Ways of preventing enemy use

b. Prepare a security plan for disposing of classified radioactive material. The plan will—

(1) Be a part of the technical literature for the item.

(2) Provide security protection equal to the level of security classification involved.

(3) Furnish procedures for declassification.

1-24. Commanders having unwanted radioactive material. Commanders of organizations, units, and activities having unwanted radioactive material will—

a. Ensure, when property is contaminated by radiation, all practical efforts are made to decontaminate the items before disposal (see TM 3-220 and AR 700-64). If it is not economically sound to decontaminate the property or if the contamination cannot be reduced to a safe level, then the property will be treated as radioactive waste.

b. Report through command channels all surplus radioactive material to be screened for further use or disposal.

c. Declassify radioactive waste, if possible. If declassification is impossible, the classified waste must be processed, stored, packaged, and reported separately from all unclassified radioactive waste.

d. Obtain disposal instructions for radioactive waste to be buried at sites in the United States from Cdr, ARRCOM, (ATTN: DRSAR-MAD-GC), Rock Island, IL 61299. Oversea activities will route their requests for disposal instructions as directed by the major Army commander in that area.

e. Provide for local storage and shipment of unwanted radioactive material.

1-25. Ionizing Radiation Control Committee (IRCC). *a*. The IRCC is an advisory body to the commander in fulfilling his or her responsibilities. The committee should consist of the—

(1) Commander

(2) Radiation protection officer

(3) Medical officer (if one is assigned)

(4) Safety officer, or

(5) Representatives of the officers in (1) through (4) above

(6) Representatives of an employee organization

(7) Other personnel knowledgeable in radiation safety

b. The committee should establish the local rules and procedures for procurement, storage, and safe use of radiation sources. Additional responsibilities of the committee are to—

(1) Review proposals to use or procure radioactive items, such as SOPs and applications for licenses and authorizations.

(2) Study reports of incidents and adverse findings.

(3) Make recommendations for improvements.

Quarterly meetings are usually necessary because of program and regulatory changes.

1-26. Radiation Protection Officer (RPO). The RPO is responsible for the radiation safety program. Specifically, the RPO will—

a. Provide guidance on creating working conditions and operating procedures that comply with applicable regulations and directives.

b. Instruct personnel in safe working practices, emergency procedures, harmful effects of radiation overexposures, and other topics required by 10 CFR 19 and 29 CFR 1910.

c. Evaluate and document hazards related to specific operations involving production, storage, use, transportation, disposal, or loss of control of radioactive material to ensure adequate control and safeguards are used. This evaluation includes physical measurements or calculations of radiation levels present, a prediction of potential hazards resulting from changes in materials or operations and proposed corrective actions.

d. Review equipment, materials, facilities, operations, and procedures involving radioactivity.

e. Advise in writing the commander, the licensee, and other responsible officers of any unsafe practices, defects, or noncompliances under 10 CFR 21.

1-27. Radiation Control Officer (RCO). The RCO will—

a. Manage and operate the RMCP.

b. Review and approve in writing the selection of each local radiation protection officer (LRPO) in the command's geographical area.

c. Take action, when a qualified LRPO is not available to control radioactive sources to—

(1) Stop requisition for the material.

(2) Stop use of on-hand material until someone can be qualified by training. Training can be—

(a) Attendance at a formal course approved by the DARCOM MSC responsible for the item, or

(b) On-the-job training given by the RCO.

While training the LRPO, the RCO will be responsible for radiation safety, to include performing leak test and recording the results.

(3) Transfer radioactive items to an installation or activity that has the proper radiac equipment and qualified personnel.

d. Maintain records listed in paragraph 3-5.

e. Ensure controlled items are properly handled according to DA and NRC regulations.

f. Evaluate and validate records periodically of accountable commands, installations, and activities.

g. Notify the proper DARCOM element (table 3-2) within 60 days of the permanent transfer between major commands of an individually controlled item.

h. Submit the Radiation Incident Report, RCS DD (AE) 1168 by electrical means (by phone, if possible) to the appropriate licensee (telephone number and address are in table 3-2) immediately after the incident is discovered. This report will include data on—

(1) Personnel overexposure to radiation.

(2) Damaged or leaking radioactive sources or items.

(3) Loss or theft of individually controlled radioactive items. The telephone report will be followed by a written radioactive incident report giving the details of the incident and the corrective action taken. This written report will be sent to the licensee within 25 days after the incident is discovered and to other addressees (listed in AR 385-40) within 60 days.

i. Combine and send Radioisotope Inventory and Leak Test Report, RCS DRC-192 to the proper licensee (table 3-2) at least twice a year (31 January and 31 July). Quarterly reporting is required when the leak test cycle is every three months (table 3-1).

j. Have a scientific or engineering background and should have educational training in (1) or (2) below. (GS 1306 and MOSs 7330, 551, 52A, and 52 with A51 S5 are exempt from those requirements.)

(1) Radiological Safety Course 7K-F3, US Ordnance Center and School.

(2) A total of 80 hours of formal training in the following areas:

(a) Principles and practices of radiation protection.

(b) Radiological monitoring techniques.

(c) Radiac instrumentation (including operation, calibration, and limitations).

(d) Mathematics (enough to do calcluations to measure radioactivity and evaluate real or potential hazards).

(e) Biological effects of radiation.

(f) Applicable Federal and Army regulations.

1-28. Local radiation protection officer (LRPO). The LRPO appointed by the local installation or activity commander will—

a. Ensure that controlled items under his or her jurisdiction are properly used and stored.

b. Ensure that records (para 3-5) are maintained for each individually controlled item.

c. Advise the RMCP of any proposed change in—

(1) Accountability of an item.

(2) Local radiation protection offices.

(3) Installation relocation of an individually controlled item. An individually controlled item will not be relocated or released from accountability until the receiving RMCP evaluates and approves the—

(a) Qualifications of the LRPO at the receiving installation.

(b) Effectiveness of the radiation protection program at the receiving installation.

d. Submit a Radiation Incident Report to the RMCP by electrical means to report—

(1) A theft, loss of controlled destruction, or leakage.

(2) Damage of individually controlled items and suspected radiological overexposures (CFR 19, 20, 21, 30, 40, and 70 and AR 385-40). Items possibly damaged will not be used until their safety is confirmed and reuse has been approved by the RPO at the RMCP.)

e. Send a written follow-up of the electrical report giving the details of the incident and the corrective action taken to the RMCP within 15 days after the incident.

f. Establish radiation control areas where the use or storage of radioactive materials may—

(1) Create dose rates in excess of 2 millirads per hour.

(2) Cause personnel to receive 100 or more millirads in 7 consecutive days or 300 or more millirads in a calendar quarter.

g. Post—

(1) NRC Form 3 (fig. 1-1) required by 10 CFR 19.11, which will be reproduced locally on 10½ by 16 inch paper.

(2) Radiation warning signs required by AR 385-30, and

(3) Other notices required by 10 CFR 19 and 20.

h. Ensure procedures state that controlled items must be stored in a fire-resistant building and must be used as prescribed in applicable publications.

(Locate fig 1-1, a fold-in page, at the end of the regular size pages)

1-29. Licenses. Commanders of organizations and activities that are issued DA authorizations or NRC licenses will—

a. Comply fully with applicable provisions of 10 CFR, terms of the license, and this regulation.

b. Ensure that licensed or authorized material under their control is not transferred to unauthorized persons or organizations.

CHAPTER 2
LICENSING AND CONTROL OF IONIZING RADIATION SOURCES

2-1. NRC specific licenses. *a.* NRC licenses are required within the United States, its territories, and possessions to produce, transfer, receive, own, possess, use, and dispose of byproduct, source, and special nuclear material in excess of license-exempt quantities in 10 CFR 30-34, 40 and 70. (For other quantities, specific licenses must be obtained, unless they are authorized by an NRC general license under parts 31 or 40.)

b. The NRC requires licenses for materials activated in an Army reactor when transferred beyond the direct control of the reactor staff.

c. Decommissioned Army nuclear reactor facilities are subject to either—

(1) DA radiation authorizations (DARAs) or

(2) NRC licensing, unless the facility is license exempt under Section 91B of the Atomic Energy Act.

d. Procedures for applying for NRC licenses are discussed in paragraph 2-4.

2-2. DA radiation authorizations (DARAs). *a.* DARAs are required to produce, transfer, receive, own, possess, or use—

(1) Radioactive materials—

(a) Excluding items having radioactivity in excess of the quantities shown in 10 CFR 30.71, Section B and items

(b) Exempt from NRC specific license control.

(2) Byproduct, source, and special nuclear material used, stored, or disposed of outside the United States, its territories, and possessions. This includes items irradiated during weapons test that emit a dose rate over 0.4 millirads per hour at any distance.

b. Commodity managers must get a DA authorization for items of issue (see AR 700-64) containing radioactive material if the item is—

(1) An electron tube containing more than 10 microcuries, or

(2) A smoke detector containing more than 10 microcuries.

(3) Not exempt from the requirements in *a* above.

(4) Exceeding the NRC license-exempt quantity of 0.1 microcurie of radium or 1.0 microcurie of any other radionuclide.

c. DARAs are granted for 3 years. Renewals or amendments to an authorization will be requested in the same manner as the original application. Requests for renewal should be submitted through command channels to the Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333, no later than 30 days before the expiration date. A request for an amendment can be submitted to reach DARCOM at any time up to 30 days before the date the authorization expires. Requests for amendment or renewal will be submitted on DA Form 3337 (Application for Department of the Army Radioactive Material Authorization or Permit). Four copies are required.

d. If a DA element already has a proper NRC license, it does not require a DARA for radionuclides and uses covered in the NRC license.

e. DARAs will be requested by submitting completed copies of DA Form 3337 through command channels to the Cdr, DARCOM, ATTN: DRCSF-P, 5001 Eisenhower Avenue, Alexandria, VA 22333.

f. Copies of DA Form 3337 (Application for Department of the Army Radiation Authorization Permit) can be obtained from Letterkenny Army Depot, Chambersburg, PA 17201.

2-3. DA radiation permits. *a.* DA radiation permits are required for use, storage, possession, and disposal of radiation sources by non-Army agencies (including civilian contractors) on an Army installation. Concurrence of the installation commander and HQDA is required to obtain a DA permit.

(1) If an NRC license already permits use or storage of radioactive sources at unspecified Army installations, the non-Army agency still needs a DA permit. The non-Army requestor will send six copies of DA Form 3337 to the installation commander. The commander will then send four copies of DA Form 3337 to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333.

(2) A DA permit is not required for temporary use or storage (less than 15 consecutive calendar days) if the local commander determines that adequate safety exists.

b. Local commanders may approve temporary use or storage of sealed radioactive sources by users with a proper NRC license or agreement State license (see glossary). A copy of the user's request and local commander's approval will be sent through command channels to Cdr, DARCOM within 3 days of the approval. In all cases, approvals will require users to restore the property to NRC unrestricted use criteria.

2-4. Transfer and export of radioactive material. *a.* Transfer of byproduct, source, and special nuclear material will not be made, except under 10 CFR 30, 40, and 70.

b. Applications to transfer to authorized agencies or to export to non-Army agencies an amount exceeding that listed in 10 CFR 30.71 will be made through command channels to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333.

c. DA permits are required for transfer or export of radioactive materials beyond Army's control, except for domestic recipients having the proper NRC or Agreement State license. Requests will be by letter and must—

(1) Describe the item, radioactivity, and radiation levels,

(2) Give special handling instructions, if needed, and

(3) Identify the recipient.

2-5. Application for NRC specific license. *a. General.*

(1) Procedures for requesting and processing specific licenses are discussed in *b* through *d* below.

(2) Specific licenses are issued to an installation or activity commander who has met these requirements of Title 10 CFR—

(a) Part 20, Standards of Protection Against Radiation

(b) Part 30, Rules of General Applicability for Licensing of Byproduct Material

(c) Part 31, General Licensing for Certain Quantities, etc.

(d) Part 32, Specific Licenses to Manufacture, Distribute, etc.

(e) Part 33, Specific Licenses of Broad Scope

(f) Part 34, Licenses for Radiography and Radiation Safety, etc.

(g) Part 35, Human Uses of Byproduct Material

(h) Part 36, Export and Import of Radioactive Materials

(i) Part 40, Licensing of Source Material

(j) Part 70, Special Nuclear Material

(k) Part 71, Packaging Radioactive Materials for Transport, and

(l) Pertinent Army Regulations.

(3) The signer attests, under threat of criminal penalty, that the information contained in the application for a specific license is correct to the best of his or her knowledge. The application must be signed by the commander if commitments are made affecting more than one command element.

(4) Emergency processing of applications is neither desirable nor necessary and normally will be limited to unexpected operational requirements. Processing may take 2 months for simple, well prepared applications to one year or more if significant environmental or personnel risk is involved. Leadtime for HQDA and NRC reviews requires that applicants allow 90 days for processing simple, routine requests and up to 180 days for complex or controversial actions.

(5) Licensing requests before the NRC requiring legal action will be referred to HQDA(DAJA-RL), Falls Church, VA 22041.

b. Byproduct material license. Application for a specific license for byproduct material will be made on NRC Form 313 (Application for Byproduct Material). Application for a license t

use sealed sources in radiography will be submitted on NRC Form 313R. Six signed and dated copies of the application will be sent to Cdr, DARCOM (see *f* below). Of the six, three must have original signatures.

c. Source material license. Application for a specific license for source material will be submitted on NRC Form 2 (Application for Source Material). Eight signed and dated copies will be sent to Cdr, DARCOM (see *f* below). Three of the copies must have original signatures.

d. Special nuclear material license. Application for a special nuclear material license will be made by letter under NRC requirements in 10 CFR 70. Ten signed and dated copies of the application will be sent through command channels to Cdr, DARCOM (*f* below).

e. Application forms. Application forms may be obtained by direct request to Director, Division of Materials Licensing, US Nuclear Regulatory Commission, Washington, DC 20555. NRC rules and regulations are available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402.

f. Submitting and processing applications.

(1) Applications for byproduct, source, and special nuclear material (except for human use) will be submitted through command channels to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333. Applications should arrive at DARCOM at least 60 days before the time of expected use. Radioactive items cannot be procured until the license is issued.

(2) Application for radioactive material for medical purposes (human use) will be submitted through command channels to HQDA(DASG-HCH), WASH DC 20310, under AR 40-37. Applications from medical units, except for human use or diagnosis, will be sent through command channels for review and transmittal to Cdr, DARCOM.

(3) When emergency processing is needed, an appointment will be obtained from Cdr, DARCOM (DRCSF-P) and the application will be hand-carried by a person authorized to approve the application.

(4) Commanders will consolidate license requests when practical.

(5) Approved licenses will be sent to the applicant through command channels.

g. License amendments. Applications for amendment to a license will be submitted in the same way as the original application. If this requirement is not met, it is possible that a valid license covering the amendment will not be issued until after the desired date.

h. License renewals. Applications for the renewal of an existing license will be processed like the original application and will not cite previously submitted material. If the renewal application is made under this paragraph, then the program or activity is considered covered by the previous license even though the renewal is not granted by the NRC before the expiration date. CG, DARCOM will notify the applicant when the renewal application is sent to the NRC. If a renewal application is not filed with DARCOM(DRCSF-P) 60 days before the expiration date, then all use and handling of the radioactive material must stop on the expiration date, since no valid license exists. If a request for renewal cannot be submitted in time, contact DARCOM by telephone (AUTOVON 284-9340, cml (202) 274-9340) or by telegraph and request that a storage license be obtained from the NRC.

2-6. Direct communication with the NRC. *a.* Major commanders may authorize direct communication with the NRC in cases involving inquiry initiated by the NRC or by Cdr, DARCOM (DRCSF-P). In all other cases, direct communication must be approved by DARCOM (DRCSF-P).

b. Three copies of all communications, including records of phone calls, between the licensee or applicant and the NRC will be sent to Cdr, DARCOM, ATTN: DRCSF-P, 5001 Eisenhower Avenue, Alexandria, VA 22333.

c. The purpose of these communication constraints is to—

(1) Reduce the number of questions on the same subject reaching the NRC.

(2) Ensure that decisions are dispersed throughout the Army.

2-7. Radioactive material controls. *a.* Radioactive material will be secured against unauthorized use.

b. When radioactive materials are received, procured, used, transferred, exported, distributed, or disposed of outside the United States, it's territories, or possessions, controls set by the NRC and DA for radioactive items will be observed, subject to the requirements of the host country. If a conflict exists, the most restrictive regulations will be followed. In a National emergency, this requirement will not prevent tactical deployment of units with mission-essential equipment. AR 700-64 contains additional controls specific to items of issue, such as those items that have been type classified.

c. Unless specifically exempted by a DA authorization or an NRC license, all sealed sources exceeding the quantities in 10 CFR 30.71, Schedule B will be leak tested at least every 6 months. Alpha sources exceeding these quantities will be tested every 3 months, unless otherwise exempted.

2-8. Disposal. Commanders are responsible for disposing of radioactive material (see chap. 5).

2-9. Technical advice. *a.* Technical advice about the health hazards of ionizing radiation devices and radioactive materials may be obtained on request from The Surgeon General (TSG). This includes specific advice on eliminating possible health hazards and incorporating protective health measures. Requests should be sent through channels to HQDA(DASG-PSP), WASH DC 20310. In emergencies requiring quick action by TSG, requests may be directed to HQDA(DASG-PSP-E), WASH DC 20310.

b. Technical advice and guidance on the safe movement of nuclear and nuclear radioactive material are staff functions of The Director of Safety. Written requests should be sent to HQDA(DAPE-HRS), WASH DC 20310. Radioactive materials will be transported under chapter 4 and Federal, State, and local regulations, where applicable.

2-10. Radiation health surveys. *a.* On request of an installation or activity TSG will—

(1) Provide personnel to do on-site surveys.

(2) Make recommendations to meet the requirements of this regulation and NRC regulations.

b. Requests for assistance will be sent through command channels. While the US Army Environmental Hygiene Agency does periodic surveys, the local commander should conduct enough periodic on-site surveys to ensure safety and compliance with applicable procedures and directives.

2-11. Inventory of radioactive materials. *a.* The commander of each installation or activity (except combat zones) with radioactive items in excess of the quantities in 10 CFR 30.71, Schedule B will select someone (preferably the RPO) to physically inventory the radioactive material on hand. This should be done at least every 12 months and a record of the results of each survey kept for 5 years.

b. Inventory records will contain the—

(1) Specific items of equipment or radioisotope

(2) Serial number

(3) Location of the items

(4) Radiaton levels

(5) Radioactivity

(6) NRC or DA authorization numbers

(7) Receipts, transfers, and local disposals

(8) Date of inventory and name of person making the inventory

c. Commanders of the Army NICPs, commodity and spare parts storage locations, and maintenance and repair locations also will maintain inventory records for retail and wholesale assets (AR 710-1 and AR 740-26).

d. The inventory will be the subject of periodic command inspections.

2-12. Emergency planning. Each installation and activity needs to preplan and train for credible emergencies that may occur. If the emergency exceeds local capability or resources, the parent major commander must provide assistance. While expert assistance is available from TSG and CG, DARCOM, time and distance

dictate that the parent major commands be able to assist their own installations. Past emergencies have demonstrated that 24 hours may elapse before outside assistance is furnished. Installations should test their emergency plans at least annually. Emergency plans will be incorporated as part of applicable Disaster Control Plans.

2-13. Establishing an IRCC. An IRCC is required at installations and activities where the following are used:

a. Radioactive material in excess of the quantities in 10 CFR 30.71, Schedule B

b. Accelerators

c. Unsealed radioactive materials

d. Mobile or portable industrial X-ray equipment.

A committee is not required to store, use, or maintain type classified items of issue.

2-14. Reporting of incidents, accidents, and noncompliances. See AR 385-40 and 10 CFR 19, 20, and 21.

CHAPTER 3

INDIVIDUALLY CONTROLLED RADIOACTIVE ITEMS OF SUPPLY

3-1. General. Army installations and activities may acquire and use the radioactive supply items listed in table 3-1 without getting their own NRC specific license or DA authorization (AR 700-64).

3-2. Controls. *a.* Both NRC and DA require control of all operations involving radioactive items to ensure safety of personnel and property. Army activities having licensed radioactive sources and the agencies that control them are subject to inspections by the NRC and under AR 20-1 and AR 1-200. Normally, Army activities having unlicensed radioactive items will only be subject to inspection under AR 20-1 and AR 1-200.

b. When practical, the same logistics procedures applied to other Army supplies will be used for radioactive items. Army administrative, safety, or regulatory requirements unique to radioactive items will be published in control literature-supply and technical manuals or bulletins. AR 700-64 prescribes the type of information to be discussed in control literature. Drafts of such publications should be coordinated with affected commands to ensure the field will be able to comply.

c. DARCOM MSCs will visit or inspect non-DARCOM elements only in the following unusual cases:

(1) To investigate an incident (AR 385-40).

(2) To provide emergency onsite support.

(3) By invitation.

(4) By direction.

d. The normal procedure for overseeing compliance with controls is monitoring reports of inventories, leak tests, incidents, and equipment improvements by—

(1) Feedback from logistics assistance and inspection teams.

(2) Liaison with RCMPs. Commanders, DARCOM MSCs may, on determination of a problem, perform annual liaison/inspection visits to monitor major Army command RCMPs, depots, and/or users for compliance with pertinent Army regulations.

e. Failure of any element to fulfill its responsibilities in controlling radioactive items could—

(1) Pose undue risk to personnel.

(2) Cause adverse public relations.

(3) Jeopardize broad privileges the NRC has granted to Army licensees.

(4) Result in severe penalties (10 CFR 21).

f. Most of the radioactive products in the Army are safe unless taken apart, damaged, or unless large quantities are stored in one place (bulk storage). To ensure safety—

(1) The maintenance and disposal of bulk storage material will be controlled.

(2) The individually controlled radioactive items of supply shown in table 3-1 are too dangerous for untrained persons to handle. Controls, therefore, will be imposed so that only trained and experienced persons will use them. Adequate safety equipment will be available to support the safe use of these items.

(3) Periodic inventory and testing will be performed to ensure that controlled items remain safe and at authorized locations only.

3-3. Requisitioning, transfer, and disposal. *a. Requisitioning controlled items.*

(1) All requisitions for individually controlled items (table 3-1) will be sent through channels to the appropriate DARCOM commodity command through channels set by major Army commanders under AR 725-50.

(2) Commanders will ensure that all requests are channeled through the RMCP. Each request will include the following certification:

"Sufficient safety equipment, facilities, and trained personnel are available at this installation for the safe handling, use, and storage of radioactive material ordered on this requisition."

The certification must have the signature and typed name and grade of the LRPO.

(3) Controlled items, other than individually controlled items (table 3-1), need no certification from the LRPO.

b. Transfer.

(1) Individually controlled items will not be transferred without the approval of the RMCP. Approval for transfer will be given when the RMCP determines that the receiving installation has an effective radiation protection program.

(2) Controlled items, other than individually controlled items, can be transferred without approval from the RMCP.

(3) An RMCP wanting to transfer all individually controlled items outside the major command will request shipping permission from the receiving control point. After approval, the shipping RCO will send a copy of the records on all items to the receiving RCO and notify the appropriate DARCOM subcommand (table 3-2) of the shipment. After the items are received, the receiving LRPO will notify his or her RMCP within 5 days after receipt.

(4) Transfer of radioactive material beyond the control of the Army must receive prior approval from HQ, DARCOM (chap. 2).

c. Disposal. Requests to dispose of unwanted radioactive supply items will be routed through the RMCP.

(1) Serviceable unwanted radioactive items will be screened by the RMCP or DARCOM MSC for further use.

(2) Unserviceable items will be reported to the appropriate DARCOM MSC for disposal. The DARCOM MSC will either give instructions to ship the item to a licensed repair facility or to an NRC approved land burial site.

3-4. Reports. DA Form 2352-R (Punch Card Transmission Worksheet- Radioisotope Inventory and Leak Test Report) (fig 3-1)) will be prepared according to instructions in figure 3-2. Installations with the capability to punch computer cards may send punched cards. If there is no capability, then DA Form 3252-R will be used. A copy will be sent to each appropriate DARCOM MSC listed in table 3-2. DA Form 3252-R will be reproduced locally on 8½ × 11 inch paper.

(Locate fig 3-1, a fold-in page, at the end of the regular size pages.)

3-5. Records. *a. Records of individually controlled items.* For each individually controlled item, the responsible DARCOM MSC and each RMCP will record information as follows:

(1) National stock number (NSN)

(2) Description

(3) Serial number

(4) Radionuclide, source activity, and date radioactivity was determined

(5) Dates and results of leak tests

(6) Shipment number

(7) Shipped from

(8) Shipped to

(9) Date shipped

(10) Date of manufacture (if available)

(11) Name of manufacturer (if available)

(12) Name and qualification of each LRPO (maintained by RMCP only)

b. Supplementary records. In addition to the records lised in *a* above, license managers at DARCOM MSCs will maintain the following records:

(1) Correspondence related to assigned NRC licenses and DA authorizations

(2) Reports of surveys, tests, inspections, equipment improvements, studies, and investigations made on assigned items

(3) Inventory and leak test summaries

All of the above records will be maintained for 5 years.

Table 3–1. Radioactive Sources

Description and NSN	*Use*	*Isotope and activity*	*Sealed Source*	*Half-life*	*Individually controlled items*	*Smear or leak test frequency (months)*	*References*
Radioactive Source Set, M3A1 6665–00–856–8235	Gamma source for calibrating instruments.	Co 60, 100 millicuries	Yes	5.3 yrs	Yes	6	TM 3–6665–214–13&P
Radiac Calibrator, AN/UDM–6 6665–00–767–7497	Alpha check source for AN/PDR 60 and AN/PDR 54.	1.4×10^6 cpm Pu–239	No	24,360 yrs	Yes	3	TM 9–6665–203–10
Radiac Calibrator, TS1230A 6665–00–973–1123	Calibrate 3 ranges of *Juno* meter IM–156/PD.	Pu 239 4×10^6 cpm	No	24,360 yrs	Yes	3	TM 3—6665–202–10
Radiac Calibrator, AN/UDM–2 6665–00–176–9037	Calibrates radiac meters IM–93( )/UD, IM–147( )/PD, IM–9E/PD, Radiac Meter IM–174( )/PD, Radiac Set AN/PDR–27( ), Radiac Set AN/PDR–60, and Aerial Radial System AN/ADR–6.	Sr90–Y90, 100 millicuries	Yes	27.7 yrs	Yes	6	TM 11–6665–227–12
Radiac Calibrator, AN/UDM–1 6665–00–669–0077	Gamma source for calibrating instruments.	Co 60, 10.0 curies	Yes	5.26 yrs	Yes	6	TM 11–6665–217–15
Radiac Calibrator Set, AN/UDM–1A 6665–00–556–8825	Gamma source for calibrating instruments.	Cs 137, 12.0 curies	Yes	30.0 yrs	Yes	6	TM 11–6665–217–15
Radiac Calibrator Set, AN/UDM–7B 6665–00–400–5388	Alpha source for calibrating instruments.	Pu 239, two sources 10^7 dpm and 10^5 dpm	No	24,360 yrs	Yes	3	
Tester, Density & Moisture Nuclear Method Cambell Pacific Model No. MC–1 6635–01–030–6896	Gamma source for soil Asphalt density and moisture testing.	Cs 137, 10 millicuries Am 241, 60 millicuries	Yes	26.6 yrs 458 yrs	Yes	6	TB 385–103

Warning: The above items are all sources of radioactivity and can be extremely dangerous. Consult references for safety precautions, warning signs, and storage limitations.

Table 3-2. Licenses, Licensees, and Control Points

NSN	*NRC (AEC) License No.*	*Report incidents to these licensees–*	*Send movement reports and consolidated leak test inventory reports to–*	*When installation lacks ability to evaluate, send leak test samples to–*
6665-00-400-5388 6665-00-767-7497 6665-0056-8235 6665-00-973-1123 6665-00-715-5141 6665-00-618-1348	SNM 1745 SNM 1745, Amend .01 CSL EML 19-01826-02 SNM 1745, Amend .01 CSL SUB-865 CSL SUB-865	Commander US Army Armament Materiel Readiness Command ATTN: DRSAR-SF Rock Island, IL 61299 Telephone: Commercial (309) 794-6989/6982 AUTOVON 793-3383/5019 During nonduty hours call: Commercial (309) 794-6001 AUTOVON 793-6001	Commander US Army Armament Materiel Readiness Command ATTN: DRSAR-MM Rock Island, IL 61229	The address prescribed by major Army commanders or to nearest primary nucleonic: Commander Lexington-Blue Grass Army Depot Activity ATTN: SDSRR-L-QND Lexington, KY 40507
6665-00-669-0077 6665-00-556-8825	Specific license required. Outside US, its territories, and possessions, a DA radiation authorization is needed.	Using activity must obtain its own NRC license or, if located outside the United States, a DA radiation authorization. These items are not covered by broad licenses issued to DARCOM MSCs.	Commander US Army Materiel Development and Readiness Command ATTN: DRCSF-P Alexandria, VA 22333	Commander Sacramento Army Depot ATTN: SDSSA-QMD-1 Sacramento, CA 95813
6665-00-176-9037 6665-00-832-6159 6665-00-526-8648	BML 29-01022-08 BML 29-01022-11 BML 19-1826-2/ BML 29-01022-11 BML 29-01022-12	Commander US Army Communications and Electronics Materiel Readiness Command ATTN: DRSEL-SF Fort Monmouth, NJ 07703 Telephone: Commercial (201) 532-3493/4452 AUTOVON 992-3493/4452 During nonduty hours call: Commercial (201) 532-1100/1492 AUTOVON 992-1100/1492	Commander US Army Communications and Electronics Materiel Readiness Command ATTN: DRSEL-SF Fort Monmouth, NJ 07703	Commander Lexington-Blue Grass Army Depot Activity ATTN: SDSRR-L-QND Lexington, KY 40507
6635-01-030-6896	21-0122-05	Commander US Army Tank-Automotive Materiel Readiness Command ATTN: DRSTA-CZ Warren, MI 48090 Telephone: Commercial (313) 573-2194/2121 AUTOVON 273-2194/2121 During nonduty hours call: Commercial (313) 573-1511 AUTOVON 273-1511	Commander US Army Tank-Automotive Materiel Readiness Command ATTN: DRSTA-CZ Warren, MI 48090	Commander Lexington-Blue Grass Army Depot Activity ATTN: SDSRR-L-QND Lexington, KY 40507

Instructions for Preparing Radioisotope Inventory and Leak Test Report (RCS DRC-192) (DA Form 3252-R)

Card Column	*Instruction*
1–6	Enter the unit identification code (UIC) of unit or activity. Show as six letters or numbers.
7–17	Enter 11-digit NSN. Do not use dashes. Use NSN for the radioactive source rather than the one for kits or sets having a radiation source with a separate NSN.
18–22	Enter 5-digit serial number. If serial number has less than 5 digits, fill blank spaces with zeros.
23–26	Enter one of the following codes for determined source activity. (The activity of these sources may vary considerably and should be reported as indicated on the source at date of manufacture.) UDM–1 010K (10 curies) UDM–1A 120K (120 curies) TS–1230A 40C5 (4 × 106 counts per min) M3A1 126– (126 millicures) MC–1 070– (70 millicures) UDM–6 14C5 (1.4 × 106 counts per min) UDM–2 100– (100 millicures) UDM–7B 10C6 (1.0 × 107 counts per min)
27–30	Enter year and month source activity (colms 23–26) was determined. If this date is not known, enter "UNK" in the first three spaces and leave column 30 blank. Show the year in the first 2 digits and the month in the last two. Examples: February 1980 would be "8002" December 1978 would be "7812"
31–33	Enter 3 digit number for year and date installation received item. Example: December 1979 would be "912". If date is not known, enter "UNK."
34–35	Leave blank.
36–43	Enter one letter and 7 numbers to indicate shipment number or Government bill of lading (GBL). The GBL must appear on all reports deleting an item from the inventory or adding an item to it.
44–45	Leave blank.
46–50	Units reporting an item received, enter the UIC or the Army location code (ARLOC) from where the source was shipped. Units deleting an item from the inventory, enter the UIC of the receiving unit or activity if transferred; or enter the ARLOC to which an item was shipped for disposal. (See columns 73–77.)

Figure 3–2

Card Column — *Instruction*

51–52 ..... Leave blank

53–56 ..... Enter the Julian date the item was shipped for transfer or disposal.

57–58 ..... Leave blank.

59 ..... Enter one of these numbers:

1—Reports on NSN 6665-00-973-1123
2—Reports on NSN 6665-00-856-8235
3—Reports on NSN 6635-01-030-6898
4—Reports on NSN 6665-00-767-7497
5—Reports on NSN 6665-00-618-1348

Leave blank for reports on all other NSNs.

60–62 ..... Give date of last leak test. Use 3 digits. (See colms 31–33.)
Enter "NOW" for the M8 Uranium Test Sample, NSN 6665-00-618-1348

63–65 ..... Enter 3-digit number to show results of the leak test made on the date shown in columns 60–62 (showing microcurie × 10 − 5) for example: 0.002 microcuries would be "200." If an activity exceeds .005 microcuries, put device into safe storage, and check area and personnel for contamination. Request guidance from the licensee (table 3-2) by priority teletype. Round off wipe test results to the nearest 10-5 microcuries. Examples:

0.001700 microcuries would be "170"
0.000030 microcuries would be "003"
0.000005 microcuries would be "001"
Less than 0.000005 would be "−1"

66–68 ..... Enter one of these codes in column 66:

N—Wipe test checked locally and is free of detectable contamination.
Follow this code with the proper abbreviation of the activity (colms 67 and 68) to which the wipe test was sent for a more accurate analysis:

SD—Sacramento Army Depot
LX—Lexington Blue Grass Depot Activity
MD—Laboratory designated by major Army commander

D—Analysis reported.
Follow this code with the proper abbreviation of the activity making the wipe test analysis. Abbreviations are given above.

NXX—Analysis performed with locally available measuring equipment of the required sensitivity. (AN/PDR-27 is not adequately sensitive.)

Figure 3-2—Continued

Card Column *Instruction*

LEK—Source was leaking. Example: A wipe test checked locally with AN/PDR–27 was free of detectable contamination. The wipe test was mailed to the Lexington Blue Grass Depot Activity for more accurate analysis. Test results were not received in 30 days; therefore, the report was submitted with "UNK" in columns 63–65 and "NLK" in columns 66–68. When the report was received, the radiation protection officer requested that the wipe test report be transmitted. When received, the wipe test results of .003 were then reported as "300" in columns 63–65 and "DLX" in columns 66–68.

69 ..... Choose one of these alpha characters to indicate type of report:

I— Initial or recurring semiannual inventory

W—Change in date of last wipe test.

K—Correction of erroneous information reported previously. This letter code must be used with both transaction codes (colm 80). Example: "Delete previously reported data" and "add new corrected data". Two cards are required to make the correction.

E—The item is excess to the needs of the unit or activity having custody of the source. Report excess sources only as separate items, not as physical components of other sets.

L—A change to the unit or activity having custody of the source. Columns 1–6 must also be changed, and columns 46–50 and 53–56 filled in.

D—Completion of disposal actions, and item is to be deleted from the inventory. Columns 36–43, 46–50, and 53–56 must also be filled in.

70–72 ..... Indicate date of report.
Enter the year in the first digit and the month in the last two digits. Example: February 1980 would be "002."

73–77 ..... Enter ARLOC identifier from Pam 525–12 and Pam 525–13 that best represents the actual source location.

78–79 ..... Leave blank.

80 ..... Enter one of these transaction codes:

A—Add

D—Delete. If "delete" card has a "K" in column 69, also prepare an "add" card. If an "L" or "D" is in column 69, then columns 36–43 and columns 46–50 also must be completed.

C—Change. Use with "W" in column 69.

Figure 3–2—Continued

CHAPTER 4

TRANSPORTATION OF RADIOACTIVE AND FISSILE MATERIALS OTHER THAN WEAPONS

4-1. Transportation procedures. The following procedures will be followed when transporting radioactive materials other than nuclear weapons. They are over and above those required by Federal, local government, or host nation regulations. See TM 55-315 for guidance.

a. The RCO or a designated alternate will survey outgoing shipments and packages and give the local transportation officer the written results. The license numbers of the consignor and the consignee will be indicated on the survey report. A copy will be a part of the shipping records.

b. The RCO or a designated alternate will also survey incoming shipments and document his or her survey of the shipment.

c. The receiving transportation officer will submit a report of arrival by electrical means to the shipping installation when shipments are received in excess of quantities in 10 CFR 30.71, Schedule B. This report of shipment (REPSHIP) will give the time, date of arrival, and the physical condition of packages. If a shipment has not arrived within 24 hours after ETA, the consignee will notify the consignor by electrical means. The consignor will take immediate steps to trace the shipment.

d. Shipments of radioactive material that require technical escorts (para 4-5) will be carefully planned, scheduled, and coordinated by the shipper with the—

(1) Host nation,

(2) State and local traffic authorities,

(3) Escort personnel, before the move.

e. Radioactive materials may be loaded with other compatible cargo to save available space. No radioactive materials, however, will be loaded in the same vehicle or compartment of an aircraft or of a ship with—

(1) Vegetables, fruits, bagged grain, or other contaminable foodstuffs

(2) Live animals

(3) Passengers

f. Before radioactive materials are unloaded at a receiving installation, the packages will be carefully monitored for excessive external radiation or contamination. If excessive radiation is present, the vehicle will be isolated and proper measures will be taken to ensure minimum exposure to personnel unloading the shipment. Any contamination or excessive exposure that could have occurred en route must be checked at once. In case of possible overexposure or contamination, commanders will require all military personnel to be medically examined. Civilian personnel possibly over-exposed will be encouraged to be medically examined at military medical facilities, where possible.

g. All vehicles or aircraft (military or commercial) transporting radioactive materials will be monitored for radioactive contamination immediately after unloading. This will be done under the supervision of the installation health physicist or the RPO. The vehicle or aircraft, if needed, must be decontaminated before release. Before opening, packages will be monitored for contamination within 3 hours of receipt during normal duty hours; within 18 hours after normal duty hours (10 CFR 20.205). Radioactive guidelines are listed in table 4-3.

4-2. Special permits and exemptions. *a.* Federal regulations exempt certain shipments of radioactive material from specification packaging, marking, and labeling (49 CFR 173.391). Army packages containing radioactive material, however, must be marked and labeled according to MIL-STD-1458.

b. If circumstances require that a shipping activity get relief from certain DOT requirements, a request for a special permit should be made. Requests will be submitted through command channels to HQDA(DAPE-HRS) WASH DC 20310, with a copy to Cdr, DARCOM, ATTN:

DRCSF-P, Alexandria, VA 22333 to be sent to Cdr, MTMC. Guidance for preparing special permit requests is in section V, chapter 216, AR 55-355.

4-3. US mail and parcel post. *a.* The use of US mail or parcel post for shipping radioactive material is prohibited except as prescribed in applicable postal regulations (39 CFR 14 and 15).

b. Shipment of radioactive materials by US mail or parcel post will be coordinated with the transportation officer and RPO to ensure compliance with postal regulations.

c. Radioactive material shipped by mail should be certified and return receipt requested.

d. Shipment of plutonium by mail or air is prohibited.

4-4. On-post movement by military vehicle. *a.* Radioactive materials will be loaded and transported according to AR 55-355. The dose rate in any occupied area of the vehicle should be less than 2 milliroentgen per hour based on the amount of time en route. No one will receive more than 100 millirem in any 7 consecutive days, or 0.5 rem in any calendar year.

b. Film badges and radiac survey instruments will be given to personnel who accompany the shipment, if the dose rate in the occupied areas of the transport vehicle exceeds 0.4 milliroentgen per hour.

c. Unless prohibited by an NRC license, radioactive materials may be moved in packages not approved by DOT if—

(1) The move is within installation boundaries, and

(2) Under the immediate supervision of radiation protection personnel preparing the shipment.

4-5. Technical escorts. *a.* In special situations, material will be escorted. This is done when—

(1) The material can not be packaged and shipped without waiver of DOT requirement.

(2) Security considerations require an escort.

(3) Special nuclear material, other than weapons, is to be transported (according to 10 CFR 73.30 through 73.36).

(4) The commanding officer of the shipping agency decides an escort is in the best interest of the Government from the standpoint of—

(a) Public relations

(b) Economics

(c) Degree of hazard involved

b. Technical escorts are supplied by the US Army Technical Escort Center (USATEC), Aberdeen Proving Ground, MD 21010 (AR 740-32) or are qualified and responsible DA military or civilian personnel. Escorts will have a security clearance equal to the highest security clearance of the material they are to escort. Radiation training and experience of the escort personnel and radiac equipment must be equal to the radiological hazard of the material being shipped.

c. When needed, the originating installation is responsible for supply provisions and funds for using technical escorts (as opposed to military guards) and vehicles.

d. In addition to film badges and radiation safety devices, technical escorts will include as part of their equipment (one each)—

(1) A fire extinguisher with a minimum Underwriter Laboratories (UL) rating at 4 A 30 B: C.

(2) A multipurpose fire extinguisher with a minimum UL rating of 10 A 40 B: C. In highway movement, the 10 A 40 B: C (multipurpose) fire extinguisher will be carried on the escort vehicle; the 4 A 30 B: C fire extinguisher on the commodity transport vehicle, within reach. In rail shipment, the firefighting equipment will be carried in the railway cars the escorts travel in. Escort personnel will be able to operate all firefighting equipment issued.

4-6. Procedures for obtaining technical escort service from the USATEC. *a.* Furnish quarterly schedules (to cover subsequent 2 quarters) to Cdr, ARRCOM, ATTN: DRSAR-SR, Rock Island Arsenal, IL 61229 for all known or expected moves. (Include data required by AR 740-32.)

b. Details should be sent to reach Cdr, USATEC, Aberdeen, Proving Ground, MD 21010—

(1) A minimum of 7 days before the desired shipping date, for CONUS shipments.

(2) A minimum of 60 days before the shipping date, outside CONUS. Emergency requests should be made by the quickest means, followed by confirmation in writing.

4–7. Accidents and incidents. *a.* The prime objectives of emergency action are preservation of life and limb and the protection of personnel from the hazards of radiation.

b. The next consideration is confinement of the contamination to the local area of the accident. If possible, people who may have been contaminated or overexposed should be found and given decontamination and medical assistance. It may be necessary to obtain the aid of the local authorities to find people along the shipping route who may have been contaminated or overexposed. State and local civil authorities have an inherent right to respond to accidents or incidents on public roads.

c. If radioactive materials are exposed or if contamination is suspected, establish an exclusion area to prevent exposure to the general public. Local authorities may be asked to help control the area.

d. If people are seriously injured, all other problems (except fire) become secondary until first aid is given (FM 21–11) and help for rescue and evacuation, if needed, are summoned. Some cities have special rescue teams on call to help in these emergencies.

e. The accident or incident should be reported to the shipping installation and help obtained by calling the—

(1) Nearest Army element listed in table 4–1,

(2) Nearest NRC regional office listed in table 4–2,

(3) Local police or health department, or

(4) DOT (Commercial (202) 426-1830). (The US Coast Guard will answer.)

After receiving the report, the shipping installation will give guidance and assistance and submit the follow-on reports to the above agencies.

f. Federal interagency radiological assistance can be obtained by calling the Joint Nuclear Accident Coordinating Center (JNACC) at Kirtland Air Force Base, Albuquerque, NM 87115 (Commercial (505) 264-8279 or AUTOVON 964-8279).

Table 4-1. Army Addresses and Emergency Telephone Numbers

*Emergency Point of Contact**	*Address*	*Office**	*Telephone No.* *AUTOVON*	*AC*	*Cml*
Deputy Chief of Staff for Operations and Plans	Washington, DC 20310	Army Opr Ctr	225-7769 225-2314 227-0218 851-1800	202 202 202	695-7769 695-2314 697-0218
Deputy Chief of Staff for Personnel	Washington, DC 20310	Dir Army Safety	225-7293	202	695-7293
Deputy Chief of Staff for Logistics	Washington, DC 20310	Duty Officer	227-2116	202	697-2116
The Surgeon General	Washington, DC 20310	Duty Officer (Call TAGO's Duty Officer)	227-0218	202	697-0218
		Radl Hygiene Consulant	697-2796	202	697-2796
US Army Environmental Hygiene Agency	Aberdeen, MD 21010	Health & Evn Health Physics Ofc Duty Officer	227-2796 584-3526 584-4375	202 301 301	697-2796 671-3526 671-4375
Joint Nuclear Accident Coordinating Center	Kirtland AFB Albuquerque, NM 87115	Operations Ctr	964-8279	505	244-8279
US Army Development and Readiness Command	Alexandria, VA 22333	Duty Officer Health Physics Ofc	284-9223 284-9340	202 202	274-9223 274-9340
Military Traffic Management Command	Washington, DC 20315	Duty Officer Transportation Safety Officer	289-1926 289-1952/ 1951	202 202	756-1926 756-1952/ 1951
US Army Military District of Washington	Washington, DC 20319	Duty Officer NBC Officer**	223-1193 223-1443	202 202	693-1193 693-1443
US Army Training and Doctrine Command	Ft. Monroe, VA 23651	RCO Officer Duty Officer	680-4319 680-2772	804 804	727-4319 727-2772
US Army Forces Command	Ft. McPherson, GA 30330	Operations Ctr NBC Officer RCO Officer	588-3222 588-3840 588-4169	404 404 404	752-3222 752-3840 752-4169
US Army Health Services Command	Ft. Sam Houston, TX 78234	Duty Officer	471-6319/ 6827	512	221-6319
		Radl Hygiene Staff Officer	471-3168/ 3167	512	221-6319
1st Army	Ft. Meade, MD 20755	Duty Officer	923-4805/ 4827	301	677-4805/ 4827
		NBC Officer	923-4101 4192	301	677-4101/ 4129

*Emergency Point of Contact**	*Address*	*Office**	*Telephone No.* *AUTOVON*	*AC*	*Cml*
5th Army	Ft. Sam Houston, TX 78234	Duty Officer	471-2901/ 3018	512	221-2901/ 3018
		Operations Ctr	471-4513/ 2171	512	221-4513/ 2171
6th Army	Presidio, San Francisco, CA 94129	Duty Officer	586-2497	415	561-2497
		Operations Ctr	586-2661/ 4247/ 2780	415	561-2661 4247/ 2780
Chief, National Guard Bureau	Washington, DC 20310	RCO Officer	225-3220	202	695-3220
		Duty Officer	227-2430	202	697-2430

*During normal duty hours, call the appropriate office listed for the various emergency points of contact. After normal duty hours and on holidays, call the listed Duty Officers.

**Nuclear, Biological, and Chemical Officer.

Table 4-2. United States Nuclear Regulatory Commission Regional Offices (10 CFR 20 Appendix D)*

	Address	*Telephone*
Region I		
Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont	Region I, Office of Inspections and Enforcement, USNRC 631 Park Avenue King of Prussia, PA 19406	(215) 337-5000
Region II		
Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Panama, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, and West Virginia	Region II, Office of Inspection and Enforcement, USNRC Suite 3180 101 Marietta St., NW Atlanta, GA 30303	(404) 221-4503
Region III		
Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin	Region III, Office of Inspection and Enforcement, USNRC 799 Roosevelt Road Glen Ellyn, IL 60137	(312) 932-2500
Region IV		
Arkansas, Colorado, Idaho, Kansas, Louisiana, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, Wyoming	Region IV, Office of Inspection and Enforcement, USNRC Suite 1000 611 Ryan Plaza Drive Arlington, TX 76612	(817) 334-2841
Region V		
Alaska, Arizona, California, Hawaii, Nevada, Oregon, Washington, and territories and possessions in the Pacific	Region V, Office of Inspection and Enforcement, USNRC Suite 202 1990 N. California Blvd. Walnut Creek Plaza Walnut Creek, CA 94596	(415) 943-3700

*The States serviced by the above regional offices vary for 10 CFR 73 (Shipment of Special Nuclear Materials). See 10 CFR 73, Appendix A.

Table 4-3. Radioactive Contamination Guides

Contaminated Items and Indications for Actions	Fixed or Removable	Contamination Level				Method of Measurement
		Alpha		Beta-gamma[1]		
		dpm per 100 cm2	dpm per 100 cm2	mrad/hr @ 1 In.	dpm per 100 cm2	
1. Clothing, including shoes:						
a. Personal. Should be replaced, decontaminated, or stored for decay if above.	F	200		.05		Probe
	R		None		None	Smear[3]
b. Anticontamination.[2]						
(1) General. Should be replaced and/or decontaminated if above.	F	1000		0.2		Probe
	R		200		1000	Smear[3]
(2) Respirators. Should be decontaminated or replaced after use, if above.	F	200		1.0[4]		Probe
	R		None		None	Smear[3]
2. Containers. Before nonradioactive use, should be decontaminated if above.	F	200		0.2		Probe
	R		None		100	Smear[3]
3. Work Areas and Equipment.[5 6]						
a. Uncontrolled. Requires decontamination if above.	F	1000		0.05		Probe
	R		100		100	Smear[3]
b. Controlled:						
(1) Areas.	F	1000		0.02		Probe
	R		200		400	Smear[3]
(2) Hoods.	F	1000		2.0		Probe
	R		200		2000	Smear[3]
(3) Glove Boxes.	F	5000		2.5		Probe
	R		1000		5000	Smear[3]
(4) Workbench Surface.	F	1000		2.00		Probe
	R		2000		400	Smear[3]
(5) Other Equipment Items.	F	1000		2.00		Probe
	R		200		2000	Smear[3]
4. Skin:						
a. Body. Continue decontamination if above.	F	200		0.06		Probe
	R		None		None	Smear[3]
b. Hands. Continue decontamination if above.	F	400		0.06		Probe
	R		None		None	Smear[3]

[1] Measured through not more than 7 milligrams per square centimeter of total absorber and averaged not more than 1 square meter.

F Fixed

R Removable

[2] Contaminated clothing should be released to a licensed laundry only.

[3] Smears analyzed with a calibrated counting system.

[4] In contact with any surface of the mask.

[5] For natural uranium, U-depleted, and U-238; levels for alpha contamination should be increased by a factor of 5 (according to NRC guidelines).

[6] If Radium-226 is a contaminant, levels for alpha contamination should be reduced by a factor of 2.

CHAPTER 5
DISPOSAL OF UNWANTED RADIOACTIVE MATERIAL

5-1. General. *a.* Radioactive material will be sold, donated, or transferred to authorized persons only.

b. In the United States, land burial disposal is permitted only at NRC approved sites. Oversea land burial sites set aside by foreign governments can be used when approved by the State Department and CG, DARCOM. Radioactive waste will not be buried at sea.

5-2. Security. *a.* Areas where unwanted radioactive material is stored will be designated, posted, and protected as radiation-controlled areas. Physical safeguards that are equal to the degree of hazard or security classification involved will be used (AR 380-20). Oversea commanders will use AR 380-20 as a guide in providing area protection and physical safeguards for radioactive material in storage.

b. Radioactive waste will be declassified before shipment, if possible. Liquid waste that cannot be declassified will be solidified before shipment.

c. Activities preparing to ship classified radioactive material will notify the consignee of the security classification before shipment as well as physical security requirements after the material is received.

5-3. Budgeting and funding. *a.* The disposal of unwanted radioactive material will be budgeted and reported under account 728012.21000 according to AR 37-100-XX.

b. Operations to be funded by the generating installation or activity include—

(1) Handling, processing, packaging, escorting, and transporting unwanted radioactive material.

(2) Establishing and operating radioactive material processing facilities.

c. Cost for land burial services/ultimate disposal will be borne by the command administering the unwanted radioactive waste disposal mission.

d. Oversea commanders are responsible for the administrative and operational costs to process, ship, escort, and return radioactive waste to the burial sites.

5-4. Special problems. Special radioactive material disposal problems requiring logistical assistance will be directed to Cdr, DARCOM, ATTN: DRCMM, Alexandria, VA 22333. Unusual disposal problems involving licensing, regulation, decontamination, or radiation safety, which cannot be resolved locally, will be referred to CG, DARCOM.

5-5. Procedures to prevent enemy use. *a.* In combat, Army units are authorized to use the most expeditious means available to dispose of any radioactive item that cannot be evacuated normally or that cannot be transported with the unit. When possible, follow the guidance in paragraph *b* below.

b. Commanders of combat zone supply and operational units should preplan to prevent devices containing large amounts of radioactive material individually or collectively (bulk storage) from falling into enemy hands. When items cannot be evacuated, they will be destroyed. Radioactive materials will be disposed of to prevent enemy use as much as the circumstances permit. Devices containing low activity sources will be destroyed by crushing and burying or by scattering over an area large enough to make salvaging impossible. Items may be crushed in place by using vehicles exerting enough ground pressure over a firm terrain so the items will be crushed rather than just pressed into the ground. High activity radioactive sources, including high activity calibration or radiographic devices, will be placed in their shielded containers and buried to make enemy detection unlikely. Because of radiation hazard, do not destroy radioactive material with explosives or dump into water areas. Contaminated areas other than burial sites will be posted as radioactive areas. To aid decontamination and recovery of buried items when the area is reclaimed, commanders will—

(1) Record actions taken

(2) Send reports to higher headquarters, to include—

(a). Exact location.

(b). Types and quantities of devices and material involved.

5-6. Consolidation. Activities having unwanted radioactive material, including waste, will place the material in a secure local storage area pending shipment to a land burial site or to an authorized recipient. It is more economical to process large amounts of radioactive material for ultimate disposal than to process small quantities. Therefore, installations able to store and safely consolidate radioactive waste are encouraged to do so about 30 days before requesting shipping instructions.

5-7. Storage. *a.* A radiation-controlled area will be designated to store accumulated radioactive material. This area will be posted to restrict entry (AR 385-30). Adequate security will be provided to prevent unauthorized access or removal of the radioactive material until it is shipped to a land burial facility or to an authorized recipient. Safety of the material is the responsibility of the Army element that has the material.

b. When practical, material will be segregated as follows:

(1) *Combustible*—

(a). Liquid

(b). Solid

(c). Gas

(2) *Noncombustible.*—

(a). Liquid

(b). Solid

(c). Gas

c. The local fire department will be kept advised of—

(1) The location and types of stored radioactive material.

(2) Procedures for fighting fires next to or involving radioactive material.

5-8. Disposal of radioactive waste. Items that cannot be decontaminated or repaired will be disposed of as radioactive waste. Protective clothing and equipment marked with radiation warning symbols will also be disposed of as radioactive waste when no longer needed. Surplus items containing radioactive material will be disposed of as radioactive waste when—

a. Licenses or Service authorizations require disposal as radioactive waste.

b. The inventory control point (ICP) or owning activity decides that another method of disposal is not in the best interest of the Government.

5-9. Excess, serviceable or economically repairable items. *a.* Radioactive property that is excess, serviceable, or economically repairable within major Army commands will be reported through command channels to the national ICP (NICP) for disposal instructions, unless the technical literature applicable to the radioactive item instructs otherwise.

b. Electron tubes and major end items of equipment containing installed license-exempt items will be disposed of by normal transfer, donation, or sales procedures. Serviceable, uncontaminated radioactive products of major end items, such as gages and other instruments, will not be removed from surplus or excess equipment, if the technical literature applicable to the major end item does not direct removal. When these end items or surplus radioactive components are donated or sold—

(1) The donation document will show the "CAUTION" statement in chapter VI, DOD 4160.21-M.

(2) The sales contract will show the "Radioactive Material" article in chapter XI, DOD 4160.21-M.

c. When not put into major end items or equipment, license-exempt items (except electron tubes) will be subjected to normal Federal agency use screening procedures under DOD 4140.34-M and DOD 4160.21-M. These items will not be physically moved to a property disposal activity or be donated or reported for sale. Unincorporated items not used by other DOD components or Federal civil agencies will be disposed of as radioactive waste.

d. The following items are not authorized for donation or sale and can only be transferred within DOD or disposed of as radioactive waste—

(1) Microwave receiver protector tubes.

(2) Marine navigation devices (containing tritium gas).

(3) Radium sources (except those used for light production).

The command having logistical responsibility will screen items for transfer within DOD.

e. Useable licensed items containing radioactive materials may be transferred, donated, or sold only to persons having the proper license to have them. Only the item manager of the owning activity will screen these items for use and donation. Sales assistance can be requested from defense property disposal offices and regional offices, as needed. If the items cannot be transferred, donated, or sold, they will be disposed of as radioactive waste. During the disposal phase these items will not be physically moved to a property disposal activity, nor will they be transferred to defense property disposal office accounts.

f. When notified that an item is excess, NICP will take one of the following actions:

(1) Direct that the property be transferred for further use to another Army installation or agency authorized to receive the material.

(2) Authorize sale or donation if the material is surplus and if the sale or donation is permitted by the governing license or authorization. The NICP will not report radioactive items to defense property disposal officers (DPDOs) for sale or donation unless the product is known to be safe for military and public use. Radioactive items will not be physically transferred to the DPDO until shipping instructions are received from the DPDO (DOD 4160.21-M).

(a) If the item is NRC licensed-controlled, the disposal release order will state that transfer, sale, or donation of the item is limited to licensed recipients.

(b) The Services and agencies will ensure that radioactive items to be transferred, sold, or donated are free from contamination and labeled according to MIL-STD-1458.

(3) Request authority through command channels from Cdr, DARCOM, ATTN: DRCSF-P to transfer this property to authorized agencies outside of DA control. (After a policy has been established for a particular type of equipment, further coordination is unnecessary for transfer of items covered by that policy.)

(4) Direct the owner of the property to decontaminate it or to process it for ultimate disposal as radioactive waste.

5-10. Empty radioactive material containers. Radiation warning labels will be removed from uncontaminated, empty containers in which radioactive material was stored or shipped. The sale or disposal of empty, uncontaminated containers with intact warning labels can cause public alarm. Likewise, reuse of the containers for other purposes causes people to ignore the warnings on properly labeled containers. Radiation warning labels will be obliterated or removed when the labels are no longer required on the containers.

5-11. Requests for disposal of radioactive waste. *a.* Requests for disposal instructions should be submitted as follows:

(1) Installations and activities located in the United States and Greenland and oversea radioactive waste processing facilities will send disposal requests to Cdr, ARRCOM ATTN: DRSAR-MAD-CG, Rock Island, IL 61299.

(2) Army installations and activities (except those cited in (1) above) will send disposal request per instructions of the theater commander.

b. Requests for disposal instructions should contain the following information for each container:

(1) Nomenclature, NSN, and serial numbers

(2) Physical descriptions of items, to include—

(a) Solid, liquid, or gas

(b) Quantity per stock number and, if gas, the volume under standard pressure and temperature

(c) Shipping weight (pounds) and volume (cubic feet) (Volume needs to be accurately reported to nearest cubic foot)

(*d*) Number of shipping containers

(*e*) Shipping permit or waiver number

(*f*) Transport group

(*g*) Package specification

(*h*) Labels used

(3) Chemical and radioisotope description, to include—

(*a*) Hazardous chemicals present

(*b*) For liquids, the solvent present

(*c*) Radioisotopes present

(4) Radioactivity and radiation measurement, to include—

(*a*) Millicuries of activity of each radioisotope For special nuclear material, give number of grams. For source material, list the quantity in pounds.

(*b*) Maximum radiation dose rates (mrem/hr) at the surface and (mrem/hr) at 1 meter from the surface of the package

(*c*) Classification and basis for classification and procedures for declassification

(*d*) Special instructions or requests for unique service, such as return of the containers

(*e*) Name and telephone number to get additional information

(*f*) Remarks

5-12. Replies to requests for land burial service. Replies to ultimate disposal requests will include—

a. Name and address of authorized land burial facility.

b. Preferred date and time for receiving shipment at the burial site.

c. Any special instructions to be followed.

5-13. Shipment. Chapter 4 and TM 55-315 give requirements and guidance on shipping radioactive material.

5-14. Identification of radioactive commodities. Presence of radioactive items can be determined by—

a. A radiometer,

b. The markings on the items,

c. Information contained in the technical literature governing the item, and

d. Guidance in TB 43-0116, TB 43-0122, TB 43-0141, TB 43-0197, TB 55-1500-314-24, and the Army Master Data File.

5-15. Disposal locally authorized. *a*. Unless banned by local policy, regulation, or SOFA, defective electron tubes (small quantities) will be disposed of as normal waste if—

(1) The radiation level at 1 centimeter from the tubes' surface is less than 1 millirad per hour as measured with an AN/PDR-27 ( ) radiometer or equivalent.

(2) Each tube is exempt from license or contains less than 0.01 microcurie of radium (Ra-226). Defective tubes exceeding the above amounts per tube will be disposed of as radioactive waste (para 5-11). Electron tubes handled as normal waste should not be segregated and piled up before disposal, but should be disposed of as they become defective to avoid a radiation hazard.

b. Unless prohibited by SOFA, Federal, or local regulation, installations and activities may make local disposal as follows:

(1) Dispose of specific types and quantities of radioactive commodities according to disposal instructions in applicable technical publications.

(2) Dispose of effluents (liquids and gases) in unrestricted areas under 10 CFR 20.106, if not prohibited by local government.

(3) Dispose of liquids in the sanitary sewage under 10 CFR 20.303, unless prohibited by local government.

c. Burning NRC-licensed radioactive material is not authorized, except by units having a valid NRC license or authorization to do so. Request for such a license or authorization will be prepared according to chapter 2.

d. Conventional disposal of radioactive waste is authorized if radioactive decay is controlled to less than the amounts listed in Schedule A, 10 CFR 30.70. This procedure is recommended for facilities with adequate local storage and for materials containing radioisotopes with half-lives of less than 30 days to decay to background level. It is also used by some hospitals and laboratories

where short half-life radioisotopes are used in tracer techniques. The resulting waste contains low level activity in items such as excreta, laboratory animals, infectious waste, absorbent tissue, and sputum. The amount of radioactivity released locally should be kept to the lowest level practicable.

e. Waivers to the requirements in *a* through *d* above will be granted only under unusual circumstances. Requests for waivers will be addressed to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333.

5-16. Disposal at designated land burial facilities. Radioactive waste that cannot be disposed of locally (para 5-15) must be returned to authorized domestic land burial facilities for disposal.

5-17. Interservice agreements. An Army command or activity (except ARRCOM) considering making an interservice agreement with a non-Army agency to dispose of radioactive waste in excess of 1000 cubic feet (shipping volume) at any one time or during any one fiscal year will be coordinated with CG, DARCOM. The agreement will state the manner of reimbursement and the activity responsible for disposal procedures. Coordination correspondence will be sent through Cdr, ARRCOM, ATTN: DRSAR-MAD-CG to Cdr, DARCOM, ATTN: DRCMM.

5-18. Records. Records will be kept to document the disposal of radioactive material and waste according to AR 340-18-6. CG, ARRCOM (DRSAR-MAD-CG) will prepare an annual summary of radioactive items disposed of during the preceding fiscal year. The summary will list the nomenclature, NSN, and quantities of items disposed of. It will be sent to—

a. Each major DARCOM subcommand (1 copy),

b. Each of the proponent licensees of items covered (1 copy), and

c. (Cdr, DARCOM, ATTN: DRCSF-P (5 copies) no later than the following December 15th.

GLOSSARY

Activity (Radioactivity). The number of nuclear transformations occuring in a given quantity of material per unit time. The unit of measure is the curie (Ci).

Agreement State. Any State in the United States that the NRC has made an effective agreement with under subsection 274(b) of the Atomic Energy Act of 1954, as amended.

Authorized land burial site. In the United States, a US NRC approved site (usually contractor operated) designated by CG, ARRCOM as the place radioactive waste will be sent for land burial. Outside the United States, a land burial facility whose services to the oversea commander have been approved by—

a. The US State Department,

b. CG, DARCOM, and

c. The foreign government having jurisdiction over the land burial facility.

Authorized material. Radioactive material not requiring a specific NRC license. Receipt, possession, use, or transfer of radioactive material requires specific authorization or permit by a specific agency or Service organization.

Byproduct material. Any radioactive material (except special nuclear material) yielded in, or made radioactive by—

a. Exposure to the radiation incident or

b. The process of producing or using special nuclear material.

Commodity (radioactive). An item of Government property made up in whole or in part of radioactive materials. A national stock number (NSN), (formerly called a federal stock number (FSN) or part number is assigned to radioactive items in excess of—

Item	*Amount*
Americium-241	0.01 microcuries
Plutonium-239	0.01 microcuries
Radium-226	0.01 microcuries
Uranium-233	0.01 microcuries
Uranium-234	0.01 microcuries
Uranium-235	0.01 microcuries
Radioactive materials not listed above	0.01 microcuries
Mixtures of alpha emitters	0.01 microcuries

Curie (Ci). A measurement unit of radioactivity. One Ci equals 3.700×10^{10} nuclear transformations per second.

Microcurie (pCi). One-millionth of a curie (3.7×10^4 disintegrations per second on 2.22×10^6 distintegrations per minute).

Fissile material. Plutonium-238, plutonium-239, plutonium-241, uranium-233, uranium-235, or any material containinng any of the foregoing (49 CFR 173.389(a) and 173.398(a)).

Ionizing radiation. Electromagnetic or special radiation capable of producing ions, directly or indirectly in its passage through matter. For purposes of this regulation, alpha and beta particles, gamma rays, X-rays, and neutrons are examples of ionizing radiation. This type of radiation does not include sound or radiowaves, visible, infrared, or ultraviolet light or lasers.

Ionizing radiation control committee. A group of qualified personnel officially appointed by a commander to set local policy and to guide the radiation protection program.

Ionizing radiation producing devices. Electronic devices that are capable of making ionizing radiation. Examples are X-ray machines, linear accelerators, electron microscopes, cyclotrons, and radio frequency generators that use klystrons, magnetrons, or other tubes that produce X-rays.

Leak test. Test of how well a sealed source is containing its radioactive content.

Licensed material. Source, special nuclear, or byproduct material received, stored, possessed, used, or transferred under a general or specific license issued by the NRC or an Agreement State.

License-exempt material items. Radioactive material not subject to NRC regulations or radioactive material exempt from NRC licensing under 10 CFR.

License (specific). A document issued by the NRC under 10 CFR that gives the right to the bearer to procure, receive, store, transfer, use, export, and import specified radioactive items under specific terms.

Life cycle controls. The composite of all management actions to ensure that the hazards of radioactive materials are kept to a minimum. These controls are set for each phase of the life cycle to ensure the effects of radiation on personnel and the environment are kept within acceptable limits.

Medical use. The internal use of radioactive material (byproduct, etc.), or the radiation from it, on human beings or animals.

Monitoring (area). Routine monitoring of the radiation level or contamination of a certain area, building, room, or equipment. Some laboratories or operations distinguish between routine monitoring and survey activities.

Monitoring (personnel). Monitoring any part of an individual including the breath, excretions, or any part of the clothing.

Naturally occuring radioactive materials. Radioactive isotopes, such as radium and radon found in nature, but not classified as source material.

Radiation control officer. An officer, enlisted person, or DA civilian employee appointed by each major Army commander to manage the radiation protection program for the major command.

Radiation protection officer. A person appointed by the commander to give advice on the hazard of ionizing radiation and to supply effective ways to control these hazards.

Radiation sources. Materials or devices that make or are capable of making ionizing radiation, including—

a. Naturally occuring radioactive materials.

b. Byproduct materials

c. Source materials

d. Special nuclear materials

e. Fission products

f. Materials containing induced or deposited radioactivity

g. Radiographic and fluoroscopic equipment

h. Particle generators and accelerators

i. Electronic equipment that uses klystrons, magnetrons, or other electron tubes that produce X-rays.

Radioactive controlled items. All commodities, components, and end items containing radioactive material that are controlled with respect to maintenance, disposal, and bulk storage. Items requiring additional controls are listed in 10 CFR 30.71.

Radioactive individually controlled items. Items that are assigned NSNs and must be controlled to the extent their integrity and location are known by the licensee, or designated agent (control points), at all times.

Radioactive material. Any material or combination of materials that voluntarily give off ionizing radiation. This includes natural elements such as radium and accelerator-made radionuclides.

Radioactive material control point. Any Army element (including the RCO) that has been designated by a major Army commander to control radioactive items within the command.

Radioactive waste. Includes the following:

a. Property contaminated to the extent that decontamination is economically unsound

b. Surplus radioactive material whose sale, transfer, or donation is prohibited

c. Surplus radioactive material that is determined to be unwanted after being advertised as surplus

d. Waste that is radioactive due to production, possession, or use of radioactive material

Report, survey. A written record of the data, analysis, evaluation, disposition of radioactive materials and radiation levels, required actions, and recommendations associated with performing a radiation survey.

Sealed source. Any radioactive material that is permanently bonded or fixed in a capsule or matrix designed to prevent the release or dispersal of such radioactive material under the most severe conditions that may be encountered in normal use or handling.

Source material. Uranium or thorium or a combination of both, in any physical form. Ores that contain by weight one-twentieth (0.5 percent) or more of uranium or thorium or any combination. Source material does not include special nuclear material.

Special nuclear material. Plutonium or uranium enriched in isotope 233 or 235 and any other material the NRC determines to be special nuclear material. Any material (except source material) artificially enriched by either isotope.

Survey (radiation). Evaluation of the radiation hazard incident to the production, use, or existence of radioactive materials or other sources of radiation under specific conditions. The evaluation usually includes—

a. A physical survey of the disposition of materials and equipment

b. Measurements or estimates of the levels of radiation involved

c. Predictions of hazards resulting from expected or possible changes in materials or equipment

Unwanted radioactive material. Any radioactive item, including waste or excess supplies, that is not needed by the owner.

PUNCH CARD TRANSMISSION WORKSHEET – RADIOISOTOPE INVENTORY AND LEAK TEST REPORT
For use of this form, see AR 385-11; the proponent agency is DARCOM.

(Indicate numeric zero as "0". Print one character in each space.)

REQUIREMENT CONTROL SYMBOL DRC-192

UIC						NSN										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

SERIAL NO.					SOURCE ACTIVITY				DATE OF ACTIVITY				DATE RECEIVED			
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	

		SHIPMENT NO.										SHIPPED TO/RECEIVED FROM				
34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

		DATE SHIPPED						PRI CODE	DATE TEST			TEST RESULT				
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65		

ANALYSIS METHOD			TYPE REPORT	DATE THIS REPORT		ARMY LOCATION CODE *(ARLOC)*								TRANS CODE		
66	67	68	69	70	71	72	73	74	75	76	77	78	79	80		

DA FORM 1 MAR 80 3252-R EDITION OF 1 JUN 67 IS OBSOLETE.

Figure 4–1.

The proponent agency that has overall responsibility for the regulation is the US Army Materiel Development and Readiness Command. The Office of the Director of Safety is responsible for chapter 4. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Cdr, DARCOM, ATTN: DRCSF-P, Alexandria, VA 22333. Comments on chapter 4 should be sent on DA Form 2028 direct to HQDA (DAPE-HRS) WASH DC 20310, with an information copy to Cdr, DARCOM.

By Order of the Secretary of the Army:

E. C. MEYER
General, United States Army
Chief of Staff

Official:
J. C. PENNINGTON
Major General, United States Army
The Adjutant General

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Form NRC-3
(1-80)
10 CFR 19
10 CFR 20

UNITED STATES NUCLEAR REGULATORY COMMISSION
Washington, D.C. 20555

NOTICE TO EMPLOYEES

STANDARDS FOR PROTECTION AGAINST RADIATION (PART 20); NOTICES, INSTRUCTIONS AND REPORTS TO WORKERS; INSPECTIONS (PART 19)

In Part 20 of its Rules and Regulations, the Nuclear Regulatory Commission has established standards for your protection against radiation hazards from radioactive material under license issued by the Nuclear Regulatory Commission. In Part 19 of its Rules and Regulations, the Nuclear Regulatory Commission has established certain provisions for the options of workers engaged in NRC-licensed activities.

YOUR EMPLOYER'S RESPONSIBILITY

Your employer is required to—

1. Apply these NRC regulations and the conditions of his NRC license to all work under the license.
2. Post or otherwise make available to you a copy of the NRC regulations, licenses, and operating procedures which apply to work you are engaged in, and explain their provisions to you.
3. Post Notices of Violation involving radiological working conditions, proposed imposition of civil penalties and orders.

YOUR RESPONSIBILITY AS A WORKER

You should familiarize yourself with those provisions of the NRC regulations, and the operating procedures which apply to the work you are engaged in. You should observe their provisions for your own protection and protection of your co-workers.

WHAT IS COVERED BY THESE NRC REGULATIONS

1. Limits on exposure to radiation and radioactive material in restricted and unrestricted areas;
2. Measures to be taken after accidental exposure;
3. Personnel monitoring, surveys and equipment;
4. Caution signs, labels, and safety interlock equipment;
5. Exposure records and reports;
6. Options for workers regarding NRC inspections; and
7. Related matters.

REPORTS ON YOUR RADIATION EXPOSURE HISTORY

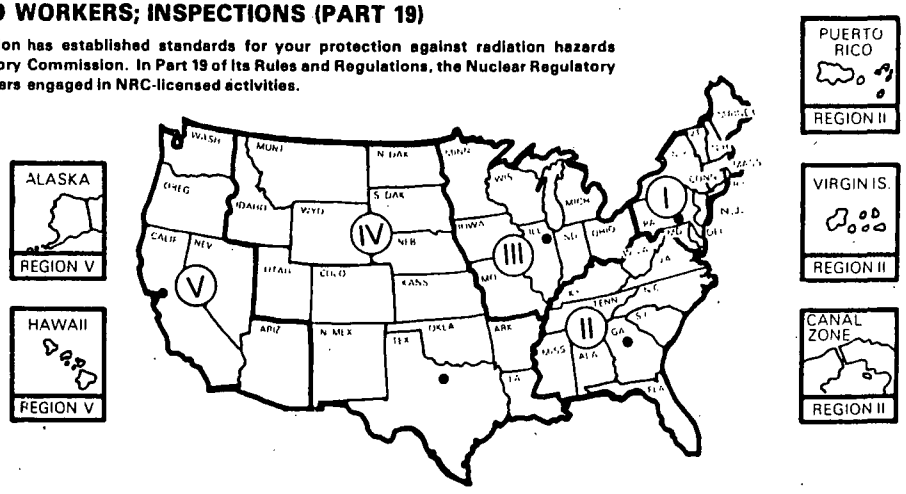
1. The NRC regulations require that your employer give you a written report if you receive an exposure in excess of any applicable limit as set forth in the regulations or in the license. The basic limits for exposure to employees are set forth in Sections 20.101, 20.103, and 20.104 of the Part 20 regulations. These Sections specify limits on exposure to radiation and exposure to concentrations of radioactive material in air.
2. If you work where personnel monitoring is required pursuant to Section 20.202;
   (a) your employer must give you a written report of your radiation exposures upon the termination of your employment, if you request it, and
   (b) your employer must advise you annually of your exposure to radiation, if you request it.

INSPECTIONS

All activities under the license are subject to inspection by representatives of the NRC. In addition, any worker or representative of workers who believes that there is a violation of the Atomic Energy Act of 1954, the regulations issued thereunder, or the terms of the employer's license with regard to radiological working conditions in which the worker is engaged, may request an inspection by sending a notice of the alleged violation to the appropriate United States Nuclear Regulatory Commission Inspection and Enforcement Regional Office (shown on map at right). The request must set forth the specific grounds for the notice, and must be signed by the worker or the representative of the workers. During inspections, NRC inspectors may confer privately with workers, and any worker may bring to the attention of the inspectors any past or present condition which he believes contributed to or caused any violation as described above.

POSTING REQUIREMENTS

Copies of this notice must be posted in a sufficient number of places in every establishment where activities licensed by the NRC are conducted, to permit employees working in or frequenting any portion of a restricted area to observe a copy on the way to or from their place of employment.



UNITED STATES NUCLEAR REGULATORY COMMISSION

A representative of the Nuclear Regulatory Commission can be contacted at the following addresses and telephone numbers. The Regional Office will accept collect telephone calls from employees who wish to register complaints or concerns about radiological working conditions or other matters regarding compliance with Commission rules and regulations.

Regional Offices

REGION	ADDRESS	TELEPHONE	
		DAYTIME	NIGHTS AND HOLIDAYS
I	Region I, Office of Inspection and Enforcement, USNRC 631 Park Avenue King of Prussia, Pennsylvania 19406	215 337-5000	215 337-5000
II	Region II, Office of Inspection and Enforcement, USNRC 101 Marietta St., N.W., Suite 3100 Atlanta, Georgia 30303	404 221-4503	404 221-4503
III	Region III, Office of Inspection and Enforcement, USNRC 799 Roosevelt Road Glen Ellyn, Illinois 60137	312 932-2500	312 932-2500
IV	Region IV, Office of Inspection and Enforcement, USNRC 611 Ryan Plaza Drive, Suite 1000 Arlington, Texas 76012	817 334-2841	817 334-2841
V	Region V, Office of Inspection and Enforcement, USNRC 1990 N. California Boulevard, Suite 202, Walnut Creek Plaza Walnut Creek, California 94596	415 943-3700	415 943-3700

Figure 1-1. NRC Form 3.

AFPR-HR (AMSEL-SF-MR/30 Dec 85) Mr. Clements/ej/588-2072
SUBJECT: Application for Consolidated US Nuclear Regulatory Commission (NRC) Material License

HQ FORSCOM, Fort McPherson, GA 30330-6000 4 MAR 1986

TO: Commander, US Army Communications - Electronics Command, ATTN: AMSEL-SF-MR, Fort Monmouth, NJ 07003-5000

1. The CECOM Application for Consolidated US Nuclear Regulatory Commission (NRC) Material License has been reviewed by HQ FORSCOM as follows:

a. The Environmental Assessment documentation was reviewed by the FORSCOM DCSENGR, Environmental Section, in accordance with AR 200-2. Concurrence is granted.

b. The NRC License Application was reviewed by the FORSCOM Health Physicist/Radiation Control Officer, and concurrence is granted.

2. HQ FORSCOM POC is Mr. Lynn C. Clements, AUTOVON 588-2072.

FOR THE COMMANDER:

RONALD E. DIAMOND
CPT, AG
Assistant DCSIM

Encl wd

RECORD COPY: ODCSPER, LHRD, SAFEJT

Encl 1

mR

ATCD-NC (AMSEL-SF-MR/30 Dec 86) 1st End
SUBJECT: Application for Consolidated US Nuclear Regulatory Commission (NRC) Material License

HQ TRADOC, Ft Monroe, VA 23651-5000 20 FEB 1986

TO: Commander, U. S. Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-SF-MR, Fort Monmouth, NJ 07703-5000

1. Concur with subject license consolidation.

2. The POC for HQ TRADOC is CPT Rybka, AUTOVON 680-4411.

FOR THE COMMANDER:

Encl wd

DOREATHA MANGRUM
Admin Asst
Admin Spt Div

Encl 2