

DEPARTMENT OF THE ARMY
FORT CAMPBELL INSTALLATION
39 Normandy Boulevard
Fort Campbell, Kentucky 42223-5617
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Safety

RADIATION PROTECTION PROGRAM

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1. Purpose

- a. To keep radiation exposures As Low As Reasonably Achievable (ALARA).
- b. To establish policies, responsibilities, and procedures necessary to minimize the exposure of personnel to sources of ionizing and non-ionizing radiation sources. A non-ionizing radiation source is any RF (Radio-Frequency) device, high intensity light, laser system [including Multiple Integrated Laser Engagement System (MILES)], or microwave transmitter within Fort Campbell other than those used for nuclear weapons or medical purposes.
- c. To provide guidance on the accumulation, safe handling, storage, and disposition of all radioactive waste material subject to reporting and disposal.

2. Applicability

This regulation applies to any activity or person on Fort Campbell who possesses or wishes to bring ionizing or non-ionizing radiation sources onto the installation.

3. General

- a. The Army inventory includes a large number of ionizing and non-ionizing radiation sources. Proper precautions must be taken with all sources of ionizing and non-ionizing radiation; however, most of the ionizing sources contain very small amounts of radioactive material and have only a limited potential for causing injury.

This regulation supersedes CAM Regulation 385-1, dated 2 February 2007

Non-ionizing radiation sources contain no radioactive material but proper precautions must still be taken to prevent exposure. TB 43-0116 lists Army inventory items containing ionizing radiation. Technical manuals for these items specify the precautions which must be taken in storing, operating, and disposing of these items. Appropriate technical manuals must be followed when using a non-ionizing radiation source.

b. The Army inventory also includes a limited number of ionizing radiation sources that are designated "Individually Controlled Radiation Sources." These items contain larger amounts of radioactive material, have a greater potential for injury, and require special precautions. Table 1 lists the Individually Controlled Sources.

4. References

Related references are listed in appendix A.

5. Responsibilities

a. The Garrison Commander will:

(1) Appoint in writing a qualified individual to be the Garrison Radiation Safety Officer (GRSO) and an alternate GRSO (AGRSO).

(2) Establish a Garrison Radiation Safety Committee (GRSC).

(3) Issue Army Radiation Permits (ARPs) and Army Radiation Authorizations (ARAs) as necessary.

(4) Prepares and maintains historical records of location of use or storage of radioactive material on the installation and the responsible activity for that use or storage.

(5) Maintains documentation listing locations categorized as "RF controlled" and "RF uncontrolled" environments as defined by DODI 6055.11.

(6) Maintains an inventory of radiation sources as higher headquarters directs and in accordance with requirements of NRC License conditions or local procedures.

(7) Establishes written policy and procedures to ensure compliance with radiation safety requirements in applicable regulations and technical publications governing the use of radioactive commodities.

b. Commanders/Directors will:

(1) Determine whether their unit has any ionizing, non-ionizing, individually controlled radiation sources, and/or Nuclear Regulatory Commission (NRC) licensed radiation sources. Ensure they are handled, stored, and maintained in accordance with appropriate TMs and the NRC license.

(2) Notify the Div RSO and GRSO immediately of any incident or accident involving radioactive material commodities to include the loss, theft and destruction of any radioactive material or item.

(3) Ensure all personnel comply with chapter 19 (Laser Operations) of CAM Reg 385-5 (Range Regulation) when conducting laser operations.

(4) Designate in writing a Radiation Safety Officer (RSO) and an Alternate RSO whose primary duties are to manage the radiation protection program. The RSO will be trained, equipped, and supported with staff commensurate with the extent of his/her responsibilities. Major Unit Command RSOs (Senior Mission - 101st Abn (AASLT) Div and Major Unit Command Military Tenants - 5th Group and 160th SOAR) should attend the 120 hour Radiological Safety Course. Unit RSOs (Senior Mission Command and Military Tenants) and Civilian Activity RSOs will attend the CECOM 3-day Radiological Safety Course or equivalent Local 1 day course

(5) Establish a Thermo-luminescence Dosimetry (TLD) service and appoint a TLD custodian in accordance with DA PAM 385-24. This requirement is only for units that have individually controlled radioactive sources.

(6) Establish a Radiation SOP for all operations involving radiation material commodities and to include Non-Ionizing radioactive sources (Radio-Frequency (RF) and Optical Hazards (LASERs)).

(7) Provide one copy of all MUC RSO appointment orders to the GRSO.

(8) Notify the GRSO before turn-in/transfer of individually controlled items.

(9) Ensure that an annual self inspection of the unit (or civilian activity) radiation safety program is conducted. This will be conducted internally by the Battalion or Brigade Chemical Officer, a MUC RSO, or by the GRSO. Utilize the 101st Airborne (AASLT) Division, Command Inspection Program (CIP) Radiation Protection Checklist. Military tenants will use their MACOM Radiation Protection Checklist or the 101st Airborne (AASLT) Division checklist whichever is more restrictive.

(10) Notify the Div RSO and GRSO immediately of any suspected or actual exposure to radioactive material, RF or LASERs.

(11) Establish a local radiation safety program that will ensure compliance with all Federal, DOD, ARs and local directives.

- (12) Ensure that all radioactive material commodities under their control are properly stored, maintained, used, and accounted for.
- (13) Ensure that storage areas for radioactive materials are properly secured, and that storage areas are properly marked and posted IAW with this Cam Reg.
- (14) Ensure radioactive material commodities are physically inventoried monthly.
- (15) Ensure that all operators of radioactive material commodities are trained IAW the appropriate Technical Manual.
- (16) Ensure that training records are maintained for a minimum of 3 years.
- (17) Ensure that Chemical Detection Equipment (CDE) information regarding a change of status (annual reconciliation by serial number including cell or drift tube module number, transfer of equipment, lost or suspected lost equipment, inventory gain, ownership change, etc) into the Property Book Unit Set Equipment (PBUSE) system.
- c. Commanders, U.S. Army Medical Department Activity/Dental Activity will:
- (1) Provide a qualified officer to serve as the RSO and a qualified NCO to serve as the Alternate RSO for ionizing and non-ionizing sources used for medical purposes.
 - (2) Provide results of the U.S. Army Ionizing and Non-ionizing Radiation surveys to the GRSO.
 - (3) Develop and maintain a separate SOP for ionizing and non-ionizing sources used for medical purposes and provide a copy to the GRSO.
 - (4) Ensure medical surveillance as follows:
 - (a) Personnel potentially exposed to ionizing radiation in their occupational environment will receive medical examinations as required by DA PAM 385-24/DLAR 1000.28.
 - (b) Personnel potentially exposed to non-ionizing radiation will receive medical examinations as required by AR 40-5, TB Med 524, and USAEHA TG No. 153.
- d. The Director, Directorate of Logistics will:
- (1) Appoint in writing Activity Radiation Safety Officers (ARSO) to manage the radiation protection program for ISD and IMD Weapons. The ARSOs will be trained and equipped to accomplish this mission.
 - (2) Obtain the GRSO's guidance and approval for all shipments of radioactive materials.
 - (3) Notify the GRSO upon receipt of a shipment containing radioactive material. Immediate notification is required when the shipment contains an individually controlled item or a radioactive labeled package
 - (4) Ensure that vehicles, military or commercial, unloading individually controlled radioactive materials at Fort Campbell are not released until monitored by the GRSO.
 - (5) Establish a consolidation point to hold radioactive waste items until receipt of disposition instructions for disposal from Headquarters, United States Army, Joint Munitions Command (JMC).
 - (6) Establish procedures and security to preclude the unauthorized removal or salvage of radioactive material from storage.
- e. The Director of Safety will provide the GRSO and alternate to provide ionizing and non-ionizing radiation safety support for Fort Campbell.
- f. The Corps of Engineers (COE) will ensure commercial contractors under COE jurisdiction comply with the regulations governing the use, transport, and storage of radiation producing devices or materials. Contractors must have a DA Radiation Permit or Department of the Army Radiation Authorization (DARA) prior to bringing RMCs onto Fort Campbell. Permit applications will be forwarded to the GRSO and approved by the Garrison Commander.
- g. The GRSO will:
- (1) Assist the 101st Division RSO (DRSO), all major unit command tenant radiation safety officers (TRSO) and civilian activity radiation safety officers (ARSO) at all levels in implementing and managing the Fort Campbell radiation protection program.
 - (2) Provide guidance on proper working conditions and operating procedures for ionizing and non-ionizing radiation devices.
 - (3) Inspect and monitor the radioactive materials storage CONEX at the Directorate of Logistics (DOL), Supply and Services Division, as required.
 - (4) Establish guidelines for procurement, control, safe handling, inspection, storage, disposition, emergency situations, and transportation of all radiation sources on Fort Campbell.
 - (5) Review and maintain records of proposed uses of ionizing and non-ionizing radiation sources, SOPs, and license applications.
 - (6) Investigate all ionizing and non-ionizing incidents and accidents. Make recommendations and report findings to appropriate agencies.

(7) Review all requests for transfer of radioactive material and requests to bring radioactive items greater than one microcurie onto Fort Campbell.

(8) Assist the DRSO, all TRSOs, and civilian ARSOs at all levels to ensure exposures to personnel are kept ALARA.

(9) Provide required training to Unit RSOs, this training will provide the Unit RSOs the requirements that are needed to be appointed as a Unit RSO. This training is referred to as the "Fort Campbell Unit Radiation Safety Officer Course, particulars of this course may be found in Cam Cir 351-1.

(10) Will investigate accidents or incidents involving lost, stolen, broken or damaged radioactive material commodities or malfunctioned safety devices of radioactive commodities.

h. The 101st Abn Div (AASLT) Division Chemical Officer will:

(1) Appoint in writing a Division Radiation Safety Officer (DRSO) and alternate (ADRSO) to provide radiation safety support for Division assets. Duties include, but are not limited to, assist in conducting radiation training, disposal of unwanted radioactive materials, contamination surveys, transport, inventory, shipping, storage procedures, and wipe testing of ionizing and non-ionizing radiation sources.

(2) Maintain two calibrated radiac sets.

(3) Maintain membrane filters and vials to conduct wipe tests of equipment suspected of being contaminated and Divisional unit work areas (surveys).

(4) Assist all subordinate units as required and requested.

(5) Will provide to the GRSO a consolidated annual inventory (BDE Level) NLT 15 October, Serial numbers will be required with the inventory. This includes Ionizing and Non-Ionizing producing equipment and material.

i. The Garrison Radiation Safety Committee (GRSC) will:

(1) Act as an advisory body to the Garrison Commander to gather and disseminate information, recommend procedures and controls to maintain radiation exposures as low as reasonably achievable (ALARA), and promote Nuclear Regulatory Commission (NRC) license compliance.

(2) Membership includes the Garrison Commander as chair (or designee who is a senior member of the Garrison Commander's staff), the GRSO, 101st Airborne Division RSO, major unit command tenant radiation safety officers (TRSO) and civilian activity radiation safety officers (ARSO).

(3) The GRSC will meet semi-annually and/or at the call of the chair.

j. Unit Radiation Safety Officers (URSO) will:

(1) Receive classroom training from the GRSO.

(2) The RSO is responsible for managing and supervising of the ionizing radiation protection requirements specified in DA PAM 385-24 as well as the non-ionizing radiation protection program specified in AR 40-5, DA PAM 385-24, and DODI 6055.11.

(3) Develops and maintains a unit standing operating procedure (SOP) for storage, inventory, training, disposal, tracking, transportation, contamination surveys if required, leak testing if required, and responding to broken or damaged radioactive devices.

(4) Will maintain the Radiation Safety Program records as required per AR 25-400-2.

(5) Train all operators of radioactive material commodities IAW with the appropriate TMs, to include:

(a) To recognize signs and symbols.

(b) Safe handling procedures.

(c) Emergency procedures. (d) Biological hazards associated with the particular isotope that the individual will be using.

(6) Ensure all radiation emitting devices are used only by qualified operators.

(7) Manages the inventory of radioactive commodities by submitting an annual radioactive material commodities inventory to the Division RSO, NLT 1 October of every year and by utilizing FC Form 4052. All military and civilian tenants will submit the annual radioactive material commodities inventory to the Garrison RSO, NLT 1 October of every year utilizing FC Form 4052. Refer to TB 43-0116 for a listing of radioactive commodities.

(8) Manages the inventory of the Non-ionizing Equipment Inventory by submitting an annual Non-ionizing Equipment Inventory to the Division RSO, NLT 1 October of every year and by utilizing FC Form 4052. All military and civilian tenants will submit the annual Non-ionizing Equipment Inventory to the Garrison RSO, NLT 1 October of every year utilizing FC Form 4052. The Non-ionizing equipment will be subdivided into two categories: Radiofrequency (RF) and Optical (LASERS). A partial list of non-ionizing radiation equipment is listed in Table 2 and TB 43-0133 for identification of RF and LASERS radiation producing equipment.

(9) Immediately report the loss, theft, destruction, or damage of any radioactive material to the next higher RSO

and GRSO.

(10) Immediately notify the next higher RSO and GRSO of any suspected or known overexposure.

(11) Request instructions from the GRSO for transfer or disposition of radioactive material commodities or radiation sources.

(12) Control radioactive material commodities and radiation sources by serial number. Coordinate with the Serialization Officer to ensure that all applicable transactions are entered into the DOD Radiations Tracking and Testing System (RATTS) database in accordance with AR 710-3 as required. Also see paragraph 7 for UIT and PBUSE requirements.

(13) Ensures all items are secured (locked) in their storage area and container when not in use.

(14) Ensures that the storage area is properly posted and marked in accordance with paragraph 12.

(15) Know emergency procedures as outlined in paragraph 9.

(16) Know the location of all unit radioactive material commodities at all times. Provide the Unit Movement Officer a copy of FC Form 4246 for movement of radioactive material commodities off of Fort Campbell for military training moves or contingency moves.

(17) All radioactive material commodities that are to be shipped off of Fort Campbell for non-tactical purposes will be shipped out of the Installation Supply Division, Packing and Crating Section.

(18) Ensure all radioactive waste items are processed prior to turn-in. Coordinate with the next higher RSO and GRSO.

(19) Units will provide the fire department a list of radioactive material commodities in their unit, minimum required information; [example - Name of Item (CAM), Number of Items (4), Isotope (Ni-63), Activity (10 mCi), Location and Room Number (Bldg #2170, Rm 222)].

(20) Establish and maintain a personnel dosimetry program (when required).

(21) Notify the next higher RSO and GRSO of any forthcoming changes to the unit RSO status.

6. Control of ionizing radiation sources

a. No radioactive material or ionizing radiation producing device may be brought onto Fort Campbell unless it meets one of the following criteria:

(1) Is incorporated in a standard issue item which is authorized by MTOE/TDA.

(2) Is covered by a specific license issued by the NRC to an activity on the installation or by a general license issued by the NRC.

(3) Is authorized by a DA authorization for Army-owned quantities exempt from NRC license.

(4) Is included in a DA radiation permit granted for non-Army agencies in accordance with DA PAM 385-24.

b. Ionizing radiation producing sources will be stored, used, and maintained in accordance with appropriate TMs and/or NRC license.

c. Standard issue items containing radioactive material must be removed from service immediately when found to be broken or unserviceable and turned in accordance with paragraph 9.

d. Unwanted serviceable items will be reported as excess and turned in through the appropriate supply channels to the DOL, ISD. These items will be stored in the ISD radioactive material storage until returned to depot.

7. Unique Item Tracking Radiation Tracking System (UITRATS) procedures

a. Unit Property Book Officers will enter chemical detection equipment (CDE) information regarding a change of status (annual reconciliation by serial number including cell or drift tube module number, transfer of equipment, lost or suspected lost equipment, inventory gain, ownership change, etc.) into the Property Book Unit Set Equipment (PBUSE).

b. Units performing leak tests (DS/TMDE activities) on CDE will report the results to the Fort Campbell Installation Serialization Officer (ISO). The ISO will input the results into the Unique Item Tracking Radiation Tracking System (UITRATS).

8. Control of non-ionizing radiation hazards

Commanders of activities responsible for the operation or testing of non-ionizing generating equipment will take the necessary measures to ensure the following:

a. Personnel working in the vicinity of such equipment are informed of potential health hazards.

b. SOPs pertaining to operational limitations placed on the equipment and control of the radiation field to minimize personnel exposures are published and enforced.

c. Periodic operational checks are conducted on all radiation safety devices such as alarms, lights, and interlocks installed on or near radiating sources prior to operation. Defective safety devices will be repaired or replaced before continuing operation.

d. When interlocks and other control or warning devices are bypassed or overridden, operational logs must indicate the purpose and duration.

e. Safety procedures prescribed in TB Med 523 or TB Med 524, as applicable, are followed.

f. All non-ionizing radiation areas are properly marked and have proper warning signs and safety switches.

g. Class 3b or 4 lasers will only be used on a laser approved range. Incorporate TM control measures into risk management planning. Report non-ionizing overexposure accidents to the GRSO.

h. Class 3b or 4 lasers will not be used force on force unless operated in a training mode which reduces output to a Class 3a or lower. Class 3a control measures will be enforced per the TM. Commanders will ensure that operators follow all warnings, cautions, notes, and control measures specified in the applicable operator manuals.

9. Control/disposal of radioactive material

a. When material has been determined or suspected to be broken, the following procedures must take place:

(1) The item must be double-bagged (plastic). Clear plastic bags are preferred to allow inspection of the device.

(2) The bag must be labeled with:

(a) "Broken Radioactive Device."

(b) Noun Nomenclature or NSN or common name.

b. Additional information will be required:

(a) Name of individual who bagged the item and date of bagging.

(b) Name of individual who discovered the item was broken and the date of suspected breakage.

(3) Segregate and safeguard the material (secured outside storage area).

(4) Immediately notify the MUC RSO and GRSO upon finding a broken or suspected broken radioactive item.

c. Submit non-individually controlled items through the appropriate supply channels to the DOL, ISD for turn in.

d. For individually controlled items, submit the following information to the GRSO:

(1) NSN of the item.

(2) Number on hand.

(3) Nomenclature of item.

(4) Other distinguishing information.

(5) Radioactive isotope.

(6) Activity.

(7) Whether or not the device is leaking or suspected to be leaking.

(8) Serial number.

(9) Actual or estimated age of the item.

d. Wipe, package, and monitor the items in accordance with applicable TMs or NRC licenses.

e. Dispose of unwanted radioactive material as follows:

(1) Contact the appropriate MUC RSO to dispose of unwanted radioactive material. The MUC RSO will then contact the GRSO for disposal. The GRSO will sign for the material from the owning unit. The owning unit will ensure correct supply transactions, forms, and PBUSE input is initiated. The GRSO will ensure correct disposition procedures are followed.

(2) The GRSO will secure the material in the Fort Campbell Low Level Radioactive Waste (LLRW) storage containers. The GRSO and Alternate are the only personnel authorized to place unwanted radioactive material into the storage containers. The storage containers will be posted and in a fenced secure and controlled area. Tritium items will be stored in a separate container from other radioisotopes. Storage container inventories will be up to date and maintained by the GRSO. The GRSO will periodically contact the US Army Field Support Command (AFSC) for radioactive waste disposal.

10. Transportation of radioactive materials

a. Standard issue items containing radioactive materials (except individually controlled items) may be moved anywhere on or off the installation consistent with the owning activity's mission. The item must be serviceable and used under proper supervision for its intended purpose as specified in the appropriate technical publication.

b. A Radioactive Materials Movement Form (RMMF), FC Form 4246 (Appendix C), will be completed for transport of ionizing radioactive material commodities off of Fort Campbell whether by vehicle, commercial

shipment, or military contingency shipment. A RMMF will accompany the equipment for commercial shipments; one copy will be maintained with the owning unit and on file for inspection purposes for 3 years. For military contingency shipments, one copy of the RMMF will be attached to the container contents list, a copy given to the unit movement officer, and a copy filed with the owning unit. Items will not be packed or containerized with food products, explosives, HAZMAT, or photographic film.

c. Off-post transportation of individually controlled items by military vehicle for mission essential purposes may be authorized if--

(1) Name and rank of person responsible for the equipment with knowledge of the radioactive material contained in the item is forwarded to the MUC RSO, GRSO, and unit movement officer.

(2) Prior to departure/return and upon arrival at destination, the unit movement officer inspects the equipment for damages and documents the findings. A copy of the inspection results will be forwarded to the GRSO upon return to the installation. GRSO will conduct a vehicle/equipment inspection prior to equipment being moved off the installation.

(3) The vehicle is marked IAW the appropriate regulation.

(4) The unit notifies the GRSO on departure and provides the following information:

(a) Transport personnel have been briefed on procedures in case of an accident.

(b) Date of departures and returns.

(c) Destination.

(d) Purpose of move.

(e) Unit inventory of end items containing radioactive material.

(f) Radioactivity per item.

(g) List of TMs and support equipment to accompany the individually controlled item.

d. Off-post transportation of individually controlled items by commercial vehicle will be coordinated with the GRSO to ensure compliance with all regulatory guidelines.

e. Unsealed or leaking sources (unserviceable) will be moved only by the GRSO.

f. Upon receipt of a package containing a non-individually controlled item, the DOL Transportation Officer will telephonically notify the GRSO providing a description of the shipment and the GRSO will determine further actions based on the information received.

g. Upon receipt of a package containing one of the individually controlled items listed in table 1, the ISD Transportation Officer will immediately notify the GRSO. The vehicle (military or commercial) must be held until monitored and released by the GRSO. Monitoring must be accomplished within 3 hours of receipt if during normal duty hours or 18 hours if received after normal duty hours. These packages will be labeled in accordance with appropriate TMs and Title 49 (Transportation-Code of Federal Regulations). Action must be taken to prevent personnel from loitering within 10 feet of the package(s).

h. Radioactive materials may be stored in connection with movement as long as they are not stored in the same warehouse section with explosives, flammable materials, photographic film, or unsealed food products.

i. Radioactive material will only be transported on cargo aircraft, not passenger aircraft.

j. The GRSO will, at the request of ISD, inspect and monitor radioactive items being prepared for turn-in and ensure the proper documents are correctly completed in accordance with Title 49 (Transportation-Code of Federal Regulations).

k. Personnel that transport radioactive material commodities by commercial shipments (Federal Express, United Parcel Service, etc.) will receive and successfully complete the appropriate Radioactive Commodities Identification Transportation Course or equivalent HAZMAT Transportation Course, refresher training must be conducted every 2 years.

l. Radioactive material commodities will not be transported by POV.

11. Inspections

a. The GRSO will inspect and monitor the radioactive materials storage CONEX at DOL Supply and Services Division as required.

b. The DIV RSO and GRSO will conduct annual inspections of the MUC radiation safety programs.

c. Inspections and other surveys will be conducted as needed.

12. Storage

All radioactive material must be stored and posted in accordance with Title 10 (Energy-Code of Federal Regulations)

and Army Regulations.

- a. Two Caution Radioactive Material Signs (1st on the door leading into the room where the items are stored, 2nd on the actual container).
- b. NRC Form 3 Notice to Employees, (on the door leading into the room where the items are stored).
- c. Section 206 "Energy Reorganization Act of 1974" (on the door leading into the room where the items are stored).
- d. Notice(s) of violations – if any (on the door leading into the room where the items are stored).
- e. "Radiation Safety Information Notice" must be filled out and posted on the door leading into the room where the items are stored (Appendix D).

13. Safe handling

Ensure all safe handling techniques are in accordance with appropriate TMs and NRC license.

14. Emergency situations

- a. When an emergency situation involving radioactive material occurs at Fort Campbell, the following notifications will be made:
 - (1) The MUC RSO and the GRSO.
 - (2) In case of injury - hospital.
 - (3) In case of fire - fire department.
 - (4) In case of explosives-EOD. If a terrorist incident is suspected contact G3 DPTM, IPOD (Cam Reg 525-13).
 - (5) In all cases when first responders and fire department actions are required, all life saving measures will be performed as outlined in first responders and fire department Standard Operating Guidelines (SOG).
- b. The first few minutes after the discovery of a radiological accident can be the most critical if there are injured persons involved. Personnel present must take immediate action to accomplish the following tasks in order:
 - (1) If possible cover your (and victim's) nose and mouth with a cloth to reduce inhalation of radioactive dust.
 - (2) Administer life-saving first aid.
 - (3) Attempt to evacuate the injured personnel outside the immediate hazard area.

15. Permits, licenses, and authorizations

- a. DA PAM 385-24 requires all non-Army agencies to possess a DA Radiation Authorization or DA Radiation Permit, to use, possess, or store, ionizing radiation sources on any federal installation. This may be accomplished by following the steps listed below:
 - (1) Forward a request to the GRSO utilizing DA Form 3337.
 - (2) Forward a copy of the NRC or state license held by the agency to the GRSO.
 - (3) Identify the location where the source will be operated and stored.
 - (4) Identify individuals responsible for operations involving the source.
 - (5) Provide the duration of use.
- b. The GRSO will forward the request to the Garrison Commander for approval in accordance with DA PAM 385-24.


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Commanding

DISTRIBUTION:
Intranet

Appendix A

References

- A-1. DOD Manual 6055.5-M (Occupational Health Surveillance Manual).
- A-2. DODI 6055.11 (Protection of DOD Personnel from Exposure to Radio-Frequency Radiation).
- A-3. AR 10-43 (U.S. Army Health Services Command).
- A-4. AR 25-400-2 (The Modern Army Recordkeeping System).
- A-5. AR 40-5 (Preventive Medicine).
- A-6. AR 40-14 (Control and Recording Procedures for Exposure to Ionizing Radiation and Radioactive Materials),
- A-7. AR 40-46 (Control of Health Hazards from Lasers and Other High Intensity Optical Sources).
- A-8. AR 55-162 (Permits for Oversize, Overweight or Other Special Military Movement on Public Highways in the U.S.).
- A-9. DA PAM 385-24 (The Army Radiation Safety Program).
- A-10. AR 385-32 (Protective Clothing and Equipment).
- A-11. AR 385-40 (Accident Reporting and Records).
- A-12. AR 700-64 (Radioactive Commodities in the DOD Supply System).
- A-13. TB 43-0116 (Identification of Radioactive Items in the Army Supply System).
- A-14. TB Med 523 (Control of Hazards to Health from Microwave and Radio- Frequency Radiation and Ultrasound).
- A-15. TB Med 524 (Control of Hazards to Health from Laser Radiation).
- A-16. TM 3-261 (Handling and Disposal of Unwanted Radioactive Materials).
- A-17. TM 38-250 (Packaging and Materials Handling: Preparation of Hazardous Materials for Military Air Shipment).
- A-18. ANSI C95.1 (Safety Levels with Respect to Human Exposure to Radio- Frequency Electromagnetic Fields).
- A-19. Title 10 (Energy-Code of Federal Regulations, Parts 0-199).
- A-20. Title 49 (Transportation-Code of Federal Regulations, Parts 100-177).
- A-21. USAEHA TG No. 153 (Guide-lines for Controlling Potential Health Hazards from Radiofrequency Radiation).

Appendix B Glossary

B-1. Accident

The unexpected occurrence in a sequence of events which produces injury, death, radiation exposure, or property damage.

B-2. Alternate Garrison Radiation Safety Officer (AGRSO)

A person appointed by the Garrison Commander to act as a stand in when the GRSO is absent. This person must have graduated from the 120-hour Radiological Safety course.

B-3. Department of the Army Radioactive Material Authorization and Written Permit

DA authorization is required for use of any radioactive material (greater than 1 micro curie except Radium which is 0.1 micro curie) used on any installation if the material is not subject to an NRC license. In addition, DA written approval is required for federal and nonfederal agencies (e.g., civilian contractors) to store and use radiation sources on any Army installation.

B-4. Incident

The unexpected release or loss of control of radioactive materials either sealed or unsealed to the environment.

B-5. Individually Controlled Item

An item which must be controlled to the extent that its integrity and location are known by the licensee or his/her designated agents (control points) from its inception into the supply system until its disposal in an authorized waste disposal facility.

B-6. Garrison Radiation Safety Officer (GRSO)

A person appointed by the Garrison Commander to manage the Fort Campbell Radiation Safety Program. The scope includes ionizing and non-ionizing equipment of all military, military tenant, civilian activities, Guard/Reserve units, and civilian contractors operating ionizing and non-ionizing commodities on the installation. This person must have graduated from the 120-hour Radiological Safety course.

B-7. Ionizing Radiation

Electromagnetic or special radiation capable of producing ions, directly or indirectly in its passage through matter. For the purposes of this regulation, alpha and beta particles, gamma rays, X-rays, and neutrons are examples of ionizing radiation.

B-8. Garrison Radiation Safety Committee

Membership includes the Garrison Commander as chair (or a designee who is a senior member of the Commander's staff), the GRSO, 101st Division RSO, all major unit command tenant radiation safety officers (TRSO) and civilian activity radiation safety officers (ARSO). The committee acts as an advisory body to the Garrison Commander to gather and disseminate information, recommended procedures and controls to maintain radiation exposure as low as reasonably achievable (ALARA), and promote Nuclear Regulatory Commission license compliance.

B-9. Non-ionizing Radiation

This type of radiation comprises the electromagnetic radiation spectrum from radio frequencies through microwaves to visible and ultra-violet light. It includes two categories: radiofrequency (RF) radiation and optical (LASER).

B-10. Unit Radiation Safety Officer

A person appointed by the unit commander to Assist, Advise, Implement and Manage the Unit Level Radiation Safety Program for both ionizing and non-ionizing radioactive material commodities and radiation emitting sources and to supply effective ways to control these hazards.

Appendix C
FC Form 4246, Radioactive Material Movement Form

RADIOACTIVE MATERIAL MOVEMENT FORM						
(For use of this form see CAM Regulation 385-1. The proponent of this form is Command Safety)						
TO	FROM			<input type="checkbox"/> SHIPMENT	MOVEMENT NO.	
				<input type="checkbox"/> RECEIPT		
COMMODITY DESCRIPTION						
NO. OF CONTAINERS	QTY	NSN	NOMENCLATURE	ISOTOPE	ACTIVITY	TOTAL ACTIVITY
MODE OF SHIPMENT		PHYSICAL CHARACTERISTICS		RADIATION SURVEY RESULTS		
<input type="checkbox"/> AIR <input type="checkbox"/> TRUCK <input type="checkbox"/> RAIL <input type="checkbox"/> WATER <input type="checkbox"/> PARCEL POST <input type="checkbox"/> OTHER		<input type="checkbox"/> SPECIAL FORM <input type="checkbox"/> NORMAL FORM <input type="checkbox"/> SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> GAS		INSTRUMENT DETECTOR USED: _____ SN: _____ CALIBRATION VOID: _____ SURFACE: _____ mrem/hr BACKGROUND: _____ mrem/hr TRANSPORT INDEX: _____		
WIPE TEST RESULTS						
WIPE TAKEN BY: _____		WIPE ANALYZED BY: _____		REMOVABLE _____ dpm (package)		
DATE: _____		DATE: _____		_____ dpm (equipment)		
				LLD: _____ dpm		
BASIC DESCRIPTION						
<input type="checkbox"/> RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - INSTRUMENTS OR ARTICLES, 7, UN 2911 <input type="checkbox"/> RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL, 7, UN 2910 <input type="checkbox"/> RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - ARTICLES MANUFACTURED FROM NATURAL OR DEPLETED URANIUM OR NATURAL THORIUM, 7, UN 2909 <input type="checkbox"/> RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - EMPTY PACKAGING, 7, UN 2908 <input type="checkbox"/> RADIOACTIVE MATERIAL, TYPE A PACKAGE, SPECIAL FORM, NON-FISSILE OR FISSILE - EXCEPTED, 7, UN 3332 <input type="checkbox"/> RADIOACTIVE MATERIAL, TYPE A PACKAGE, NON-SPECIAL FORM, NON-FISSILE OR FISSILE-EXCEPTED, 7, UN 2915 <input type="checkbox"/> RADIOACTIVE MATERIAL, _____						
LABELING		MARKING(S)			SHIPPING PAPERS	
<input type="checkbox"/> WHITE I <input type="checkbox"/> EXEMPT <input type="checkbox"/> YELLOW II <input type="checkbox"/> YELLOW III <input type="checkbox"/> CARGO AIRCRAFT		<input type="checkbox"/> RADIOACTIVE <input type="checkbox"/> OTHER _____ <input type="checkbox"/> RADIOACTIVE LSA <input type="checkbox"/> UN NUMBER _____ <input type="checkbox"/> OTHER _____			<input type="checkbox"/> INCLUDED AND COMPLETE <input type="checkbox"/> EXEMPT	
24 HOUR EMERGENCY RESPONSE NUMBER IS: (270) 798-9793 (Fort Campbell Staff Duty Officer) THE DOSE RATE FOR EACH INSTRUMENT OR ARTICLE IS <10 mrem/hr AT 4 INCHES _____ (initial) CERTIFICATION STATEMENT(S) INCLUDED _____ (initial) REMARKS: 						
NAME OF RSO			SIGNATURE		DATE	

RADIATION SAFETY INFORMATION

NOTICE

NO EATING, DRINKING, SMOKING, OR APPLYING OF COSMETICS IS PERMITTED IN THIS AREA

Your Points of Contact for RADIOACTIVE MATERIALS used and/or stored in this area by this unit are:

LOCAL RADIATION SAFETY OFFICER (LRSO)

	PHONE:
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ALTERNATE LOCAL RADIATION SAFETY OFFICER (LRSO)

	PHONE:
--	--------

INSTALLATION RADIATION SAFETY OFFICER (IRSO)

	PHONE:
--	--------

OTHER CONTACTS:

U.S. ARMY, TACOM- RI (Licensee for fire control devices; CAM; M43A1 CADs, and M22 ACADAs	PHONE: DSN: 793-2965/6228 Commercial: (309) 782-2965/6228
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- 1 - The following signs must be posted where radioactive materials are used, stored, or maintained:
 - * "No eating, Drinking, Smoking, or Applying of Cosmetics Is Permitted In This Area"
 - * "Caution - Radioactive Material" (as applicable)
- 2 - The following documents must be posted in an area that is common to the workplace (i.e., break room, safety board, etc)
 - * Most current NRC Form 3, "Notice to Employees"
 - * Section 206, Energy Reorganization Act of 1974
 - * Notice(s) of Violation -- if any
- 3 - The following documents are available for review locally or by contracting LRSO:
 - * Applicable Standing Operating Procedures (SOPs, Technical Manuals (TMs), Technical Bulletins (TBs) and local regulations.
- 4 - The following documents are available for review by contacting your IRSO:
 - * Nuclear Regulatory Commission (NRC) Licenses and Army Radiation Authorization and Permits (ARA
 - * Title 10, Code of Federal Regulations (CFR) Parts 19, 20, and 21.

Table 1
Individually Controlled Radiation Sources

<u>Description</u>	<u>NSN</u>	<u>References</u>
Radioactive Source Set, M3A1	6665-00-856-8235	TM 3-6665-214-13&P
Radiac Calibrator, AN/UDM-6	6665-00-767-7497	TM 9-6665-203-10
Radiac Calibrator, TS 1230A	6665-00-973-1123	TM 3-6665-202-10
Radiac Calibrator, AN/UDM-2	6665-00-669-0077	TM 11-6665-217-15
Radiac Calibrator, AN/UDM-1A	6665-00-556-8825	TM 11-6665-217-15
Radiac Calibrator, AN/UDM-7B	6665-00-400-5388	TM 11-6665-217-15
Tester, Density and Moisture Nuclear Method, Campbell Pacific Model No. MC-1	6665-01-030-6896	TB 385-103

Table 2
Non-ionizing Radiation Sources

<u>Description</u>	<u>Description</u>	<u>Description</u>	<u>Description</u>
AN/MPQ-49	AN/GRC-106	AN-TPQ-36	AN/TPQ-37
AN/ULQ-19	AN/GLQ-3B	AN/PPS-4A	AN/PPS-5A
AN/VRC-46	AN/VRC-47	AN/GRC-122	AN/GRC-142
AN/VSC-3	AN/VPS-2	AN/VPM-2	AN/ARC-51BX
AN/ARC-114	AN/ARC-116	AN/ARC-131	AN/ARC-134
AN/ARC-164	AN/ALQ-144	AN/APN-194	AN/APX-72
AN/APX-100	AN/GRT-21	AN/GRT-22	AN/FSQ-84
AN/ARC-102	AN/GVS-5	AN/PAQ-4	AN/PAQ-1
AIM-M-110	MINI LRF L	AATS	TADS
G/VLLD	MILES	X-RAY	ARC WELDERS
LASER SYSTEMS			