

Safety and Occupational Health

Kansas Radiation Safety Program for Ionizing and Nonionizing Radiation Emitting Items

By Order of The Adjutant General

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Summary. This SOP incorporates DA PAM 385-24 (The Army Radiation Safety Program) and NGR 385-11 (Ionizing and Nonionizing Radiation Protection) and establishes radiation safety policies and procedures necessary to ensure exposure of personnel to radiation are as low as is reasonably achievable (ALARA) and to insure safe use and storage of radioactive materials, and potential hazards associated with LASER and Radio-frequency (RF) radiation systems. It serves as the guidance for the functions and responsibilities of the State Radiation Safety Program in the Surface Maintenance Management Office of the Directorate of Logistics.

History. This SOP supersedes KS-SOP 385-11 dtd 20 October 2004.

Internal Control Systems. This SOP is subject to the requirements of DA PAM 385-24; NGR 385-11; Nuclear Regulatory Commission License TACOM-RI Number 12-00722-06; NRC Rules and Regulations (Title 10, Energy, Code of Federal Regulations (CFR); Public Law 93-438, section 206, Energy Reorganization Act of 1974). It contains internal control provisions but does not contain internal checklists for conducting internal reviews.

Suggested Improvements. The proponent for this regulation is the Surface Maintenance Management Office of The Director of Logistics. Users may send comments and/or suggestions to The Adjutant General's Department, ATTN NGKS-LOM, 131 SW 27th St., Topeka, Kansas 66611-1159.

Distribution: A

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Chapter 1**General****1-1. Purpose.**

- a. This regulation provides implementing instructions for the Radiation Safety Program (RSP). It is applicable to all KSARNG installations, commands, troops/technicians and visitors to KSARNG units and installations that come into an environment influenced by both ionizing and non-ionizing radiation in possession of the KSARNG.
- b. This regulation will be further supplemented by installations and unit Standing Operating Procedures (SOP) to prescribe minimum standards necessary to keep radiation exposure from radiation producing devices to personnel at levels that are ALARA.
- c. Units possessing Individually Controlled Radioactive Items (ICRI) will maintain a SOP(s) for the safe handling and storage of radioactive devices.
- d. Maintenance Organizations will maintain a SOP(s) for the safe handling, maintenance and storage of radioactive devices.
- e. The U.S. Property and Fiscal Office (USP&FO) warehouse will maintain a SOP for the receipt, storage and shipment of radioactive materials.

1-2. References.

- a. U.S. Nuclear Regulatory Commission (NRC) Rules and Regulations, Title 10, Energy, CFR.
- b. Public Law 93-438, section 206, Energy Reorganization Act of 1974.
- c. Army Regulation (AR) 385-10, The Army Safety Program.
- d. National Guard Regulation 385-11, Ionizing and Nonionizing Radiation Protection.
- e. DA PAM 385-24, The Army Radiation Safety Program
- f. NRC License TACOM-RI number 12-00722-06.

1-3 Objectives.

a. This regulation supplements NGR 385-11 and establishes policies, procedures and responsibilities for managing the KSARNG RSP. The objectives are:

(1) To prescribe procedures for storage of radioactive material and prevention of radiological contamination and/or overexposures.

(2) To insure compliance with pertinent regulations and directives of the Nuclear Regulatory Commission (NRC), Department of the Army Radiation Authorizations (ARA), and the provisions of applicable sections of Federal Regulations.

1-4. Definitions.

- a. Calibration Source: Radiation source of known activity for calibration of RADIAC instruments.
- b. Radiation: Electromagnetic radiation (gamma or X-rays) or particulate radiation (alpha, beta, and neutrons) capable of producing ionization.
- c. Radiation Area: Any area, accessible to personnel in which there exists radiation at such levels that a major portion of the body could receive in any one hour a dose in excess of five millirem (5 mrem) or in any five consecutive days a dose in excess of one hundred (100) mrem.
- d. Restricted Area: Any area in which access is controlled for purposes of protection of individuals for exposure to radiation and radioactive materials.
- e. Sealed Source: A source in which the radioactive material is contained in a manner intended to prevent leakage.
- f. Personnel Monitoring Equipment: Devices worn or carried by an individual for the purpose of measuring the dose of radiation to which he/she is exposed (e.g., Thermo Luminescent Dosimeters (TLD), pocket dosimeters, etc.)
- g. Survey: An evaluation of the radiation hazards incident to the use, release, disposal or presence of radioactive materials. Such evaluations include a physical survey of the location of the materials and equipment, and the measurements of levels of radiation and spreadable contamination present.
- h. Radiation Safety Officer (RSO) and Alternates (ARSO): Qualified individuals appointed by the Adjutant General of the State of Kansas or Subordinate Commanders to provide consultation and advice on the degree of hazards associated with ionizing/nonionizing radiation and the effectiveness of measures to control these hazards. These individuals must be technically qualified by virtue of education, training and/or professional experience to assure a capability commensurate with the assignment IAW NGR 385-11.
- i. Device(s): As used with this regulation, refers to any instrument, tool, test set, weapon or other article that contains a radiation source.
- j. Licensee: The agency licensed by the Nuclear Regulatory Commission (NRC) to procure issue and use radioactive commodities. Examples are: U.S. Army Communications-Electronics Life Cycle Management Command (CECOM LCMC), U.S. Army Tank-automotive and Armaments Command (TACOM), etc.
- k. State Radiation Safety Officer (SRSO): The qualified person designated on orders by The Adjutant General (TAG) or appropriate staff directorate to administer the RSP.
- l. Local Radiation Safety Officer (LRSO): A qualified officer or enlisted person from a facility, brigade or battalion appointed as local radiation Safety officer for; a radiation device, such as the AN/UDM-2 RADIAC Calibrator Set; the Moisture Density Tester used by the Engineers; personnel responsible for safe storage and shipment of radioactive material at the DOL/USP&FO Warehouses; and other facilities that maintain, service or store equipment containing radioactive sources.
- m. Alternate Local Radiation Safety Officer (ALRSO): An officer or enlisted person who is qualified and will perform all of the duties of the LRSO in his/her absence.
- n. Individually Controlled Radioactive Items (ICRI): Items that are designated as such and must be controlled to the extent their location is known by the licensee or designated Radiation Safety Staff Officer (RSSO) at all times. ICRIs utilized by the KSARNG are the AN/UDM-2 RADIAC Calibrator and the Tester, Moisture and Density (Soil and Asphalt), Nuclear Method, Model MC-1.

Chapter 2 Responsibilities

2-1. Major Commands:

- a. Directorate for Safety, U.S. Army Communications-Electronics Command: DS CECOM LCMC is designated as the RSSO for the National Guard Bureau (NGB).
- b. NGB RSSO provides training and guidance for requisition, receipt, handling, storage, disposal and transportation of radioactive materials and audits of state RSP.

2-2. The Adjutant General of Kansas (TAG-KS):

- a. Assume responsibility for compliance with the KSARNG Radiation Safety Program.
- b. Ensure that adequate resources are available for maintaining and monitoring the Radiation Safety Program.

2-3. The State Surgeon:

- a. Provide medical advice, guidance and assistance on health hazards connected with radiological exposure.

2-4. State Radiation Safety Officer (SRSO) and Alternates.

- a. The SRSO is charged with the overall responsibility for the KSARNG Radiation Safety Program. Responsibilities will include but not limited to the following:
 - b. Act as special staff officer to TAG of Kansas for all facets of radiological safety.
 - c. Supervise the requisition, receipt, storage, and disposal of all radioactive material coming under the jurisdiction of TAG of Kansas
 - d. Ensure that records are maintained for each individually controlled item on hand.
 - e. Advise appropriate radioactive material control point (RMCP), or item manager, of forthcoming changes in accountability, local RSO/Alternate RSO changes, or installation relocation of an ICRI.
 - f. Report to the RSSO, or item manager, by fastest means available of theft, loss of control, destruction, leakage, or damage of individually controlled items and overexposures to radiation.
 - g. Establish Radiological control areas where the use and/or storage of radioactive material require control of access to the area for the purpose of radiological safety.
 - h. Ensure that radiological-warning signs are posted as required in Title 10 part 20 Code of Federal Regulations and NGR 385-11.
 - i. Ensure that procedures require controlled items to be stored in a fire resistant building and that no explosives or flammables of any kind are stored in the same cabinet/area.
 - j. Ensure that TLD and Pocket Dosimeters are available, issued, controlled, and worn when required. TLD exposures will be recorded IAW DA Pam 40-18.
 - k. Ensure that wipe/leak tests are performed IAW NGR 385-11 and NRC license requirements.
 - l. Ensure that radioactive items are secured against unauthorized use or removal.
 - m. Initiate actions to insure that Army and Federal Regulations are being followed and that personnel exposure is kept as low as is reasonably achievable (ALARA).
 - n. Immediately refer an actual or suspected radiation overexposure to a Medical Officer (NGR 385-11).
 - o. Ensure that a physical inventory of all radioactive material is performed annually or more often if required by a NRC license.
 - p. Provide guidance and review any procedures establishing working conditions and standard operating procedures to ensure compliance with current standards and pertinent regulations and directives and advise appropriate commanders/supervisors of unsafe practices and the corrective action(s) required.
 - q. Provide training to new personnel in safe work practices, emergency procedures and harmful effects of radiation overexposure.
 - r. Monitor and/or inspect operations involving radioactive materials to insure compliance with the radiation safety program.
 - s. Ensure that required radiological surveys are conducted for installations/activities possessing controlled radioactive commodities.
 - t. Assist with training as required.
 - u. Cause all operations, schedules or programs to cease where health might be endangered due to radiation or radiological contamination, and keep such activities suspended until hazardous conditions are corrected.
 - v. Ensure that all KSARNG Units and activities authorized individually controlled radioactive items have qualified personnel assigned and appointed as LRSO prior to receipt of that equipment.
 - w. Ensure that all KSARNG Units and activities authorized Chemical Detection Equipment and/or tritium Fire Control Devices have assigned and appointed as Unit RSO for that equipment.

2-5. The ASRSO:

- a. will assist the SRSO and perform sections 2-4 "a" through "u" above in the absence of the SRSO.

2-6. Commanders of organizations and units utilizing laser/RF devices:

- a. Ensure that personnel comply with applicable regulations and local SOPs.
- b. Ensure that an approved SOP is conspicuously posted in each laser/RF facility utilizing potentially hazardous laser and/or RF radiation producing sources/systems (those which may produce levels of exposure in excess of established MPEs (class 3b or 4 for lasers) or PELs (for RF producing sources/systems)).
- c. Ensure that appropriate personnel are included in a medical surveillance program.
- d. Provide the SRSO (or LSO/RFSO) with an annual inventory of potentially hazardous laser/RF systems.
- e. Ensure that all laser/RF radiation workers attend periodic laser/RF safety briefings sponsored by the SRSO (or LSO/RFSO) or the local commander.

2-7. Immediate supervisors, workers utilizing laser/RF devices:

- a. Supervisors:
 - (1) Post appropriate warning signs and notices as required.
 - (2) Assure that personnel operating laser/RF devices receive adequate instructions and training in the use of operational and safety equipment, prior to the personnel working with these devices for the first time.
 - (3) Maintain a roster of all personnel authorized to operate class 3 and class 4 lasers, and ensure that required personnel are on a ocular surveillance program. Pre-placement and termination eye examinations will be completed for personnel participating in laser operations.
 - (4) Establish written SOPs which include safety rules and special precautions. Written SOPs shall be forwarded to the SRSO for review and approved by the commander or the staff official who has been delegated the responsibility.
 - (5) Enforce laser and RF SOPs, safety rules, and special precautions.
 - (6) Report any laser/RF accident, unusual incident, or personnel injury, and refer injuries immediately for medical treatment.
- b. Laser and RF operating personnel will:
 - (1) Know and adhere to SOPs, safety rules, and special instructions.
 - (2) Assure that operation of laser/RF equipment will not injure other personnel who may be present.
 - (3) Report to their supervisor any known or suspected accident or personnel injury.

2-8. Laser Range Safety Officer:

- a. Ensure that all personnel authorized to participate in the laser operation are thoroughly instructed regarding safety precautions to be followed.
- b. Implement SOPs to ensure:
 - (1) Established target areas and buffer zones are observed.
 - (2) Unauthorized personnel do not enter the target area.
 - (3) Communication with personnel in the target area is maintained and that required protective eyewear is worn during the operation of the laser.
 - (4) Immediate reporting of suspected overexposure of the eyes to laser radiation so that an eye examination can be performed.

2-9. Local Radiation Safety Officer (LRSO) may be appointed by the SRSO or activity commander/supervisor

- a. Ensure radioactive items under their control are properly used, stored, maintained, and transported.
- b. Provide an updated Radiation Safety SOP as an Annex to the unit or Activity Safety SOP.
- c. Report all accidents/incidents involving radioactive material to the SRSO immediately and provide a follow-up of corrective action(s) and prevention procedures.
- d. Conduct radiation surveys/tests and recommend corrective measures as appropriate.
- e. Maintain and review applicable unit TLD dosimeter records.
- f. Post Radioactive material storage areas IAW the Code of Federal Regulations, NGR 385-11 and applicable TMs/TBs:
- g. Provide a diagram to the local fire department which depicts the location of all radioactive material storage area(s) within their facility. The type and activity of the radioactive material stored will be included on the diagram.

Chapter 3**Control of Radioactive Material****3-1. Procurement.**

- a. The USP&FO will coordinate all requisitions for ICRIs with the SRSO to determine if properly trained personnel are available to receive shipment of ICRIs.
- b. Procurement of radiological devices/instruments will be coordinated with the USP&FO. Instrumentation requirements needed to satisfy NRC requirements will be justified based on Army and NGB Policy.

3-2. Receipt of Radioactive Material.

a. Serviceable and non-serviceable items of equipment containing radioactive material will be inspected for damage prior to being brought into the USP&FO. All non-serviceable items containing radioactive material should be placed in double plastic bags at the using unit prior to transport. Damaged or unserviceable items containing radioactive material will be bagged prior to being introduced into the warehouse.

3-3. Transport.

a. Commercial Carrier: Radioactive commodities offered to a commercial carrier for transportation will be packaged, marked and prepared for shipment in accordance with 49 CFR 172 and 173.

b. Military Vehicle:

(1) Tactical Situations: Commodities may be transported in military vehicles. When commodities are being transported by military vehicle in a tactical situation, the commodity should be in its "in use" configuration. That is, such things as fire control devices are mounted on the gun or in the design movement/storage position.

(2) Non-Tactical Situations: When devices are being transported in administrative situations, such as movement of devices from warehouse to using unit the commodities will be shipped IAW 49 CFR 172 and 173.

3-4. Storage.

a. Radioactive commodities will be stored in an area that is secure from unauthorized access. Serviceable commodities will be stored separately from unserviceable commodities. Radioactive Commodities that are not an integral part of a weapon will not be stored in the weapons vault unless the vault is provided with proper ventilation.

b. Radioactive material will not be stored in the same areas as flammables or explosives.

c. Radioactive material storage areas will be posted with a sign, or signs, containing the words: "CAUTION-RADIOACTIVE MATERIAL". In addition, the following shall be posted near the storage area, or where personnel going to and from the storage area may view them.

(1) The latest NRC Form 3 - Notice to Employees.

(2) Section 206 of the Energy Reorganization Act.

(3) The NRC License for the commodities.

(4) The SOP for Radiological Operations.

(5) Parts 19, 20 and 21 of CFR Title 10.

(6) The name and phone number of person or persons to contact in event of an incident in the area.

(7) Violations of License Conditions.

Note: Items (3) through (5) may be maintained in a central location and a notice placed at the storage area informing personnel where these documents may be viewed.

3-5. Surveys.

a. Radioactive material storage areas shall be surveyed at least quarterly. Areas requiring surveys include DS/GS Maintenance Facilities that work with radioactive commodities; USP&FO warehouse, MATES/UTES storage locations; and ICRI storage locations. The survey will include a radiation survey and a contamination survey. The survey will be documented on a form as shown in Figure 2, or similar form containing the same information.

b. In addition to the quarterly survey, surveys will be performed when:

(1) A significant change of radioactive material emitting gamma or x-ray radiation is added or removed from the storage area.

(2) When the storage area contains a commodity that requires monthly radiation surveys, such as the AN/UDM-2 RADIAC Calibrator Set.

(3) When all material is removed and the storage area is to be closed out.

c. The survey will include a contamination survey using the appropriate wipe material. If the storage area contains alpha, beta and gamma sources the NUCON wipe may be used, EXCEPT for tritium and nickel-63 sources. If tritium devices or commodities containing nickel-63 are stored in the area, nitrocellulose filters, such as Metricel/Whatman, will be used. For storage areas containing all types of sources, both types of wipes will be used.

d. Sufficient swipes will be taken to assess the surface contamination levels. These swipes will be sent to the ARNG RSSO Laboratory for counting, using the Wipe Test Analysis Request Form provided by the ARNG RSSO.

3-6. Transfer of Individually Controlled Radioactive Items.

a. ICRIs listed in Appendix B of NGR 385-11 will not be transferred until approval has been obtained from the SRSO and the Radioactive Material Control Point (RMCP) Item Manager.

b. Controlled items other than individually controlled items can be transferred without approval of the RMCP, when approved by the SRSO.

3-7. Inventory.

- a. The SRSO, with the assistance of USP&FO personnel, will conduct a physical inventory of all radioactive materials listed on the property book at least once annually. The results of the inventory will be documented for the specific item of equipment or radioisotope(s) to include Nomenclature, isotope(s), activity, quantity and UIC.
- b. Copies of Radioactive Material Inventory conducted by SRSO and USP&FO personnel will be forwarded to each unit for verification.
- c. The inventory/verification of on-hand radioactive commodities within the KSARNG will be accomplished during annual health and safety workplace inspection conducted by the SRSO. When this is not possible the SRSO or ASRSO will coordinate validation.

3-8. Disposition of Unserviceable Radioactive Commodities.

- a. When sufficient excess material is on hand to warrant a request for disposal, the LRSO will send a listing of items awaiting disposal to the SRSO. The SRSO will send an inventory of the material to the RSSO for the ARNG. This inventory list will include:
 - (1) NSN of Commodity
 - (2) Nomenclature of Commodity
 - (3) Radionuclide, such as Ra-226, H-3, Th-232, etc.
 - (4) Activity of nuclide in Bq
 - (5) Total number of each commodity, and
 - (6) Total activity
 - (7) The RSSO will verify the list and forward the list to the U.S. Army Operations Support Command for disposal instructions.

Chapter 4**Ionizing Radiation Safety Procedures****4-1. The Purposes of Radiological Safety Procedures Are:**

- a. To reduce the amount of external/internal radiation exposure to personnel as low as is reasonable achievable (ALARA).
- b. To reduce the possibility of internal radiation exposure by preventing ingestion, inhalation, or other modes of entry of radioactive materials into the body.
- c. To prevent the spread of radioactive contamination.

4-2. Basic Radiological Safety Rules.

- a. Maintain cleanliness and good housekeeping in all radiation areas, especially where potential contamination may occur due to damage of the radioactive commodity.
- b. No one shall handle radioactive material with an open cut or sore below the wrist without first having it inspected by the LRSO or having it covered.
- c. There will be no eating, chewing, smoking, drinking, application of cosmetics, or preparation of any food or drink in any area in which radioactive material is handled or stored. Personnel having handled radioactive material will monitor and wash their hands before smoking, eating, drinking, chewing, and/or application of cosmetics. Washing and monitoring should be repeated until radiation levels are no greater than background.
- d. Radioactive materials will be stored only in containers and areas designated by the LRSO.
- e. Tools and other equipment used in areas where spreadable radioactive material is present will be regarded as contaminated and will not be taken outside the area until a survey indicates that the item is free from contamination.
- f. No source of radiation will be used in a non-radiation, unrestricted area, in such a manner as to create radiation levels which, if an individual were continuously present in the area, could result in him/her receiving a dose in excess of two millirem (2 mrem) in any one hour. Or if any individual were continuously present in the area could result in receiving a dose in excess of one hundred millirem (100 mrem) in any seven (7) consecutive days.

4-3. Instructions to Personnel Working with Radioactive Material.

- a. Individuals working in or frequenting any portion of a radiation controlled area will be instructed in the hazards associated with exposure to radioactive materials, the precautions or procedures to minimize exposure, and all pertinent regulations and emergency procedures which apply to that area.
- b. Prescribed monitoring equipment (TLDs) will be worn at all times when calibrating RADIAC instruments with the AN/UDM-2 RADIAC Calibrator set, when wipe testing the AN/UDM-2, when surveying the storage area of the Moisture Density Tester, Model MC-1, when wipe testing the Moisture Density Tester, Model MC-1, and when using the Moisture Density Tester, Model MC-1.
- c. Prescribed protective equipment will be worn at all times in areas where spreadable radioactive material in excess of prescribed limits is present.

- d. Monitor hands, hair, face and protective equipment with appropriate instruments frequently when working with radioactive materials and upon completion of work.
- e. Prior to leaving the work area, monitor all exposed areas of the body and personal clothing with appropriate instruments.
- f. In the event any exposed body areas and personal clothing give an indication of being contaminated, initiate appropriate decontamination procedures and contact the LRSO immediately.
- g. Even if no contamination is found, the hands will be washed, preferably before leaving the area if wash facilities are available.
- h. If an accidental contamination event has occurred or is suspected, contact the SRSO. A physical examination as recommended by the medical officer will be accomplished as soon as possible.

4-4. Radiation Safety Standards.

- a. The maximum permissible external exposure to personnel from any source of radioactive material in possession of the KSARNG will be in strict accordance with the permissible limits specified in DA PAM 385-24.
- b. Persons who have not reached their eighteenth birthday will not be permitted access to any radiation area under control of the KSARNG except with the permission of the LRSO. Such authorized persons may receive 10% of the Radiological Safety Standards (See Appendix B).
- c. Pregnant females should not be exposed to radiation.

4-5. Tritium Safety and Maintenance of Tritium Devices.

a. All Maintenance Activities are required to have and maintain standard operating procedures (SOPs) for tritium commodities. This regulation will be used as a guide in preparing local SOPs.

b. Tritium Hazards.

(1) Biological Effects. Tritium contamination and airborne radioactivity are biological hazards. If you breathe tritium oxide (tritiated water vapors) or it contacts your skin, your body will absorb the tritium. Studies have shown that a person exposed to an atmosphere containing tritium vapors will absorb about one-third to one-half as much tritium through the skin as via inhalation (i.e., one-third through the skin and two-thirds via inhalation). Therefore, release of tritium into a closed space may constitute a very serious internal hazard. Tritium distributes equally among all body fluids just as it does with normal water. All tissue in contact with body fluids will be exposed. These tissues are all soft tissues and make up about 90 percent of the body.

(2) Tritium Elimination. The average adult takes in about three liters of water a day. The average adult also excretes about three liters of water per day. About one-half of this water is urine; the rest is eliminated via exhalation, diffusion through the skin and sweat. After an exposure to an atmosphere containing tritium it takes from two to four hours for the tritium concentration in the urine to equal the tritium concentration in body fluids. An adult who has had a single exposure to an atmosphere containing tritium oxide, without additional exposure, will eliminate this tritium oxide at a rate of about three liters per day while diluting the remaining tritiated water with his daily intake of about three liters of tritium-free water. This results in the effective half-life of tritium in the body being about 10 days, i.e., the amount of tritium in the body is reduced by one-half every 10 days.

(3) Exposure Limits. Field users and maintenance personnel are typically not designated as radiation workers. They are considered members of the public for purposes of radiation exposure control. The radiation of field users and maintenance personnel should be less than 2% of the annual limit permitted for radiation workers. Radiation workers may receive 5000 millirem total effective dose equivalent per year while working with radiation. Members of the public may receive no more than 100 mrem total effective dose equivalent per year as a result of exposure to radiation from sources licensed by the United State Nuclear Regulatory Commission (NRC).

(4) Radiation Safety. The tritium sources used for illumination by the military are not biological hazards as long as they remain sealed. The energy of the radiation emitted during tritium decay is so low that it cannot penetrate the glass vial containing the source, or the cover glass on a tritium painted dial face. The container for the tritium source must be damaged before the tritium can escape. Released tritium may become airborne and cause contamination of personnel and work areas.

(5) Exercise Caution. Opening or disassembling components containing damaged tritium sources will release tritium oxide and the work area will be contaminated. Depot maintenance areas have proper facilities and programs supported by installed equipment that reduces the hazard of opening a component that contains a broken tritium source. Maintenance of fire control devices containing tritium sources is restricted to the level of maintenance authorized by the Technical Manuals. The components that house the tritium source should not be disassembled by any user or maintenance personnel.

c. Working Safely with Tritium. The NRC license issued to the US Army for tritium devices state that the instructions and cautions contained in the TM will be followed. Good work practices start with equipment familiarity. The TM and/or TB for the equipment should be read before using the equipment or performing maintenance on the equipment.

d. First Rule of Tritium Safety. Authorized maintenance should not be performed if the proper equipment is not available. Do not disassemble any components containing a tritium source and never attempt to repair a

damaged tritium source. If the source is damaged, bag the entire item containing the source and contact your local Radiation Safety Officer (RSO). To bag an item place the item with the damaged source in a plastic bag, then place the bag into another plastic bag (double bag). Label the bag "Damaged Tritium Source -Do Not Open". Always use latex gloves while handling tritium products. Contaminated gloves will be turned into the USP&FO for disposal in double-bagged plastic bags.

e. Performing Authorized Maintenance. Maintenance will **NOT BE PERFORMED** on broken tritium devices. Authorized user maintenance on an item does not involve the tritium source. The TM for items containing tritium sources limit user maintenance to work on the exterior of the item. The only exception to this is the purging of the M1A1 collimator. This procedure does not affect the tritium source if performed with the proper equipment and instructions are followed. However, the possibility of damage to the tritium source is always present during maintenance procedures. Simple precautions taken before work begins can protect you and the work area if an accident occurs. Proper preparation of the work area can reduce contamination and personnel exposure when a source is damaged. The following steps should be included in your local procedures for authorized maintenance on end items containing radioactive sources:

(1) Isolate the work area from the remainder of the maintenance shop, if practicable. If a source is damaged during maintenance the area must be secured until surveys have been performed that verify the area is not contaminated.

(2) Assemble all required tools before performing maintenance. If the proper tools are not available, do not perform the maintenance. Contact your maintenance support group for assistance.

(3) Remove all equipment that's not required for the maintenance procedure being performed from the work area. Items to remove are unnecessary toolboxes, tools, spare parts, electronic equipment, personal radios, technical manuals, etc.

(4) Cover the workspace with disposable paper.

(5) Do not allow eating, drinking, smoking, chewing gum or tobacco or applying cosmetics in the work area/room.

(6) Maintain a positive flow of ventilation for the area. Ventilation should be away from the all personnel and should exhaust outside the building.

(7) Limit access to the area to those involved in the maintenance procedure.

(8) Ascertain where on the commodity the tritium source(s) are located.

(9) Take special care not to damage the source during maintenance. Do not pry, push, or hammer on or near the area of the equipment containing the radioactive source.

Note: The ionizing radiation from tritium has such a low energy that portable radiation survey meters in the field are not capable of detecting the presence of tritium on surfaces. The only way to detect the presence of tritium on surfaces is by swipe samples counted with a liquid scintillation counter (LSC). The LSC is laboratory equipment and not normally available for use in the field.

f. Identification and Handling of a Damaged Tritium Source.

(1) Low Illumination. Tritium gas sources that show weak or no illumination may be damaged. Occasionally a tritium gas source will have illumination that is low or irregular. This may be due to condensation in the equipment or the age of the source.

(2) Check the date of manufacture. If the device is over 8 years old, return the device to the depot to have the source replaced. If damage is not apparent, the device does not have to be bagged. If the date of manufacture is less than 8 years, inspect the device for damage. **DO NOT DISASSEMBLE THE DEVICE.**

(3) If condensation is suspected and the TM for the device contains purging instructions, perform a purge. If the TM does not contain purging instructions or purge does not change illumination level, send the device to depot for repair, **if the device is not broken.**

(4) Broken Lens. Painted dial faces with a broken lens or flaking paint may be leaking tritium. If damage is detected, double bag the device, label (Broken Tritium Device - Do Not Open) and notify the LRSO.

(5) Handling Damaged Sources. If source leakage is identified or suspected (loss of illumination, glass cracked, etc.), notify your LRSO immediately. Follow the instructions for handling the device to prevent possible area contamination. The worker should remember that contamination may be present. **TREAT A COMMODITY WITH A DAMAGED TRITIUM SOURCE AS A RADIOACTIVE CONTAMINATED ITEM.** Use latex or plastic gloves to handle a damaged tritium device, and, after use, dispose of the gloves as contaminated waste.

(6) Disposing of Damaged Sources. Package and dispose of the devices as directed by the appropriate TM or the item licensee.

(7) Reporting Incidents. The SRSO shall contact the command that holds the license for the commodity involved. (See Appendix A). The responsible command is normally listed on the item or in the item TM/TB. The SRSO should have the following information available for the notification call.

(a) Item nomenclature.

(b) National Stock Number

(c) Radioactive Source

(d) Manufactured activity and date of manufacture

(e) Time and date of incident/discovery of leakage.

- (f) Where incident occurred (State, City, Post, Building, Area).
- (g) Personnel involved. Number of personnel and degree of involvement (potential exposure).
- (h) What actions have been taken?
- (i) Situation Status.
- (j) Is assistance required to mitigate the incident?

g. General Procedure for Tritium Bioassay. When a bioassay is required, urine sample collection should be performed after the tritium taken into the body has reached equilibrium conditions in the body fluids. Equilibrium is achieved approximately 4 hours after the uptake. Ideal sample collection time would be 4 to 5 hours after a suspected exposure to tritium. Obtain the sample as soon as practical following the 4 hour period after discarding the first void.

(1) Sample collection. Sample kits should be obtained and processed in accordance with instruction from U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM).

(2) Sample Containers. Urine sample containers may be acquired from local medical supply facilities. The use of any urine specimen container that can be labeled and sealed to prevent leakage during shipment is acceptable.

h. Emergency procedure for tritium devices.

(1) Broken tritium devices will be contaminated with tritium (H-3) and must be immediately double wrapped in plastic bags and evacuated to the USP&FO for shipment to Depot for repair or disposal. The outside of the package must be identified as "Broken Tritium Device(s). Do Not Open".

(2) Broken tritium devices must be handled with latex gloves to prevent contamination to hands.

(3) Place broken tritium devices in double plastic bags and seal with tape. Bagged item must be placed in shipping containers prior to shipment to depot.

(4) Rope off area suspected of containing contamination.

(5) Perform contamination surveys as required.

(6) Contaminated personnel must report to the local RSO who will contact the Occupational Health Nurse who will coordinate medical treatment and bioassays if necessary.

4-6. Radiological Emergencies.

a. Any KSARNG Commander, Supervisor, or Technician who recognizes what he /she considers to be a **RADIOLOGICAL EMERGENCY** (an incident showing evidence of loss, unauthorized use, or accidental release of radioactive material) will immediately notify the following personnel listed in order of priority. During duty hours, 0800-1600 Monday thru Friday, notify the:

(1) Kansas SRSO, CW2 Daniel McLaughlin: 785-239-8412.

(2) Alternate SRSO, CW2 Jay Hedke: 785-274-1355, or SSG Kevin Durkes: 785-274-1281.

(3) Kansas Safety Officer, CW3 Marvin Terhune: 785-861-3876.

(4) During non-duty hours, notify the TAG Joint Operations Center (JOC), Telephone Number: 785-274-1117 or 785-274-1128.

b. The following emergency procedures are to be followed in the event of an accident or fire in areas where radioactive material is stored or used:

(1) Keep away from the immediate accident scene except to rescue personnel or provide emergency medical assistance.

(2) Obtain immediate assistance from the first available source and exclude all unauthorized personnel from the scene of the accident.

(3) Stay out of smoke or vapors (except to carry out (1) above). If available, respiratory protective equipment will be used. Ventilation systems will be shut down to minimize the spread of contamination.

(4) Evacuate, isolate, and restrict personnel who may have been exposed to contamination and have them examined by qualified personnel.

(5) Do not permit the removal of any items by unauthorized personnel.

(6) Do not permit entry into accident area by unauthorized personnel.

(7) The RSO/Alternate RSO will evaluate, as soon as possible, any dosimeters on exposed personnel.

(8) If any part of the body area is contaminated, advise medical personnel and perform preliminary decontamination or provide adequate cover with any available clean material to prevent spread of contamination.

(9) Personnel who require immediate evacuation for medical treatment will be tagged to alert medical personnel of possible radioactive contamination.

Chapter 5

Control of Nonionizing Radiation Producing Equipment

5-1. Technical Advice and Surveys of Non-ionizing Equipment

a. Technical advice and assistance relating to the use of Non-ionizing equipment and the establishment of a NRPP may be obtained on request from NGB RCO: Commander, U.S. Army CECOM, ATTN: AMSEL-SF-RE, Fort Monmouth, NJ 07703-5024 DSN 992-6403 or (732) 532-6403.

b. Surveys of laser and RF systems are performed by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) prior to fielding. Recommendations from these evaluations on the safe use of these systems is incorporated into equipment technical manuals.

c. Request for technical advice and/or surveys from USACHPPM will be submitted through NGB-AVN-SO (copy furnished to NGB RCO) to: Commander, U.S. Army Center for Health Promotion and Preventive Medicine, ATTN: MCHB-DC-ORF (RF Program) or ATTN: MCHB-DC-OLO (Laser/Optical Program), Aberdeen Proving Ground, MD 21010-5422

5-2. Inventory of Non-ionizing Equipment

a. An inventory listing of laser and RF radiation producing equipment will be maintained by the SRSO. The SRSO must review and update the inventory listing annually. Units owning this type of equipment will send a updated inventory to the SRSO at the end of each Fiscal Year.

b. The laser inventory will include, as a minimum, the type designation/nomenclature of the laser device; the NSN; the total quantity on hand; and the Unit Identification Code (UIC). If possible it will also contain the hazard classification of the laser.

c. The RF inventory will include, as a minimum, the type designation/nomenclature of the RF device; the NSN; the total quantity; and the UIC.

5-3. Control of Both Laser and RF Radiation Hazards

a. Units will publish and enforce SOP's for any and all RF and laser systems that present a hazard to personnel. SOP's will specify the safety policies concerning operational limitations placed upon equipment, and the control of movement of personnel to ensure that the exposure to personnel is minimized. Copies of the MATES and CSMS SOP will be maintained by the SRSO.

b. All persons working in or frequenting any portion of a controlled environment, where equipment capable of producing Nonionizing in excess of the PELs is energized, will be informed of the hazard involved and instructed regarding the rules and procedures to be observed prior to their assignment to such areas. Instruction topics will include:

- (1) Safe working techniques and procedures.
- (2) Proper use of protective equipment and devices.
- (3) Procedures to be followed when an accident or incident occurs.
- (4) Daily pre-operational, operational, and post-operational checks or inspection to ensure radiation safety.
- (5) Procedures for maintaining an operational log for each piece of equipment that will identify when interlocks and other control or warning devices are bypassed or over-ridden.

b. Records of these instructions will be maintained locally and be subject to review by the SRSO. They will include a brief outline of the instruction and a list of persons who received them. Refresher training will be given annually, and may be incorporated into other safety briefings/updates.

d. All laser and RF controlled environments will be properly marked with appropriate warning signs and, where required, have proper warning signals and safety switches.

e. A list of persons that are required to be notified in the event of an emergency will be posted on each control area.

f. A inventory of equipment capable of producing Non-ionizing radiation in excess of the exposure limits will be maintained. A copy of this inventory will be forwarded to the SRSO.

g. Periodic operational checks will be conducted on all radiation safety devices such as alarms, lights, and interlocks installed on or near radiation sources.

h. All alleged overexposures or accidents involving Non-ionizing radiation will be reported under the requirements of AR 40-400 and AR 385-40.

5-4. Medical Surveillance. The requirements for a medical surveillance program for laser and RF workers is specified by the DA Office of the Surgeon General in a memorandum dated 11 April 1994. In summary:

a. Pre-placement and termination examinations are required for any personnel who work with class 3b and 4 devices.

b. Personnel will be designated as Incidental Laser Workers or Laser Workers by the SRSO/ASRSO.

c. Immediate examinations will be administered when there is a known or suspected laser overexposure is reported.

d. RF workers have no vision screening requirement beyond that done routinely under other occupational health guidelines. However, in the case of a known or suspected overexposure to RF radiation in excess of five times the PEL, it is recommended that an appropriate eye examination be done.

5-5. Accident Reporting

a. If an alleged laser or RF radiation over-exposure occurs, the affected activity will:

(1) Disconnect the power from the system that caused the potential exposure. Do not alter the configuration of the system.

- (2) Notify the chain of command and the SRSO/ASRSO
- (3) Ensure that the potentially exposed individual(s) receives an appropriate medical evaluation within 24 hours of the exposure.
- (4) Notify the NGB RCO within 24 hours.
- (5) Notify USACHPPM within 24 hours to forward incident information. During duty hours, contact the Laser/Optical Program at DSN 584-3932, or Radio Frequency Program at DSN 584-3353. During non duty hours, contact the staff duty officer at DSN 584-4375.
- (6) Develop and transmit an RCS DD-R&E (AR) 1168 (Radiological Incident Report) per AR 385-40.
 - b. The radiological hygiene consultant to the Surgeon General will request that USACHPPM conduct an on-site investigation when:
 - (1) An employee's lesion or ocular complaint may have resulted from exposure to non-ionizing radiation.
 - (2) An exposure to RF radiation is five times or more the PEL.
 - c. USACHPPM will conduct investigation of alleged laser or RF radiation exposures and will maintain the U.S. Army and RF Radiation Incident Registry.

Figure 1

RADIOACTIVE MATERIAL MOVEMENT FORM

CHECK ONE: <input type="checkbox"/> SHIPMENT <input type="checkbox"/> RECEIPT				MOVEMENT NUMBER: _____		
From:			To:			
COMMODITY DESCRIPTION						
Number 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 Used: _____ Calibration Due: _____ SN: _____ Transport Index: _____ Surface: _____ mrem/hr One Meter: _____ mrem/hr Background: _____ mrem/hr		
WIPE TEST RESULTS						
Wipe Taken by: _____ Date: _____		Sample Counted by: _____ Date: _____		Removable: _____ dpm/300 cm ² LLD: _____ μCi _____ Bq		
BASIC DESCRIPTION						
<input type="checkbox"/> UN 2911, Radioactive Material, Excepted Package – Instruments & Articles, 7 <input type="checkbox"/> UN 2910, Radioactive Material, Excepted Package – Limited Quantity of Material, 7 <input type="checkbox"/> UN 2909, Radioactive Material, Excepted Package – Articles Manufactured from Natural or Depleted Uranium or Natural Thorium, 7 <input type="checkbox"/> UN 2908, Radioactive Material, Excepted Package - Empty Packaging, 7 <input type="checkbox"/> UN 3332, Radioactive Material, Type A Package, Special Form, <i>Non Fissile or Fissile-Excepted</i> , 7 <input type="checkbox"/> UN 2915, Radioactive Material, Type A Package, Non-Special Form, <i>Non-Fissile or Fissile-Excepted</i> , 7						
Labeling		Marking		Shipping Papers		
<input type="checkbox"/> White I <input type="checkbox"/> Yellow II <input type="checkbox"/> Yellow III <input type="checkbox"/> Exempt <input type="checkbox"/> Handling (IATA) <input type="checkbox"/> Cargo Aircraft		<input type="checkbox"/> Radioactive <input type="checkbox"/> Radioactive LSA <input type="checkbox"/> UN Number <input type="checkbox"/> Other (_____) <input type="checkbox"/> Other (_____)		<input type="checkbox"/> Included & Complete <input type="checkbox"/> Exempt		
24 HOUR EMERGENCY RESPONSE PHONE NUMBER () _____ EACH INSTRUMENT & ARTICLE DOSERATE < 10 mrem/Hr AT 4 INCHES _____ (initial). CERTIFICATION STATEMENT INCLUDED: _____ (INITIAL). COMMENTS:						
Printed Name of RSO or Designee:			Signature:		Date:	

Figure 1

The information on this form is required to comply with Department of Transportation (DOT) regulations, 49 CFR. A completed copy of this form, or equivalent, will be kept in the vehicle (i.e., logbook, glove compartment, etc.) carrying CAMs, CADs, ACADAs or ICAMs on public roads.

The following instructions apply to transporting the M43A1 Chemical Agent Detector (CAD), Chemical Agent Monitor (CAM), M22 Automatic Chemical Agent Detection Alarm (ACADA), and/or the Improved CAM (ICAM). For assistance with the requirements for transporting other radioactive devices/material, or for questions about using this form, contact your State Radiation Safety Officer (SRSO).

1. Unit information as applicable. **Note! POV will not be used to transport any radioactive material.** GSA or military vehicles will be used. Drivers must be briefed on the hazards associated with the radioactive cargo and emergency procedures in the event of an accident.
2. Commodity Description. Check the applicable block(s). Fill in the total number(s) of each type of device.
3. Radioactivity. Check the applicable blocks for CAM, CAD, ICAM and/or ACADA. The device, isotope, activity, and physical form are provided on the movement form.
4. Radiological Survey Exemption. All CDE (in good condition) do not have radiation decay energies great enough to cause a surface dose rate of 0.005 mSv (0.5 mrem/hr). Based on this a radiation survey is not required. All CDE is packaged in its original packaging, a carrying case, or a container that has a proven history not to degrade under normal transportation conditions.
5. Transportation Information. Check the block to indicate compliance with 49 CFR. Label the outside package with both "UN 2911" and the full name and address of the shipper and the consignee.
6. Special Instructions. Ensure that packages are secured from unauthorized access during transport and are braced to prevent unnecessary shifting/movement during transport. Identify an emergency Point of Contact (POC) with telephone number, who will be continuously available during this movement. This person is responsible for coordinating safety support in the event of an accident/incident, and reporting lost or damaged CDE shipments.

Figure 2

CECOM LCMC Radiological Analysis and Calibration Laboratory

WIPE TEST ANALYSIS REQUEST FORM

(Instructions On Reverse Side)

FROM:

TO:

Commander, U.S. Army CECOM LCMC
 ATTN: AMSEL-SF-R (LAB)
 Building 2540, Laboratory Road
 Fort Monmouth, NJ 07703-5024
 Phone (732) 427-5370 or DSN 987-5370
 FAX (732) 427-2667 or DSN 987-2667

SAMPLE	DESCRIPTION OF WIPE	ISOTOPE (S)	WIPE TYPE*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

*** TYPE OF WIPE (INSERT LETTER ABOVE):**
 (Q) QUARTERLY SURVEY (T) TRANSPORTATION
 (I) INCIDENT (C) COMMODITY
 (K) KRAFT PAPER (O) OTHER (PLEASE SPECIFY IN COMMENTS)

WIPE TAKEN BY:

DATE:

PHONE:

COMMENTS:

POC EMAIL ADDRESS :

ALTERNATE POC EMAIL ADDRESS :

MY UIC is:

Figure 2

WIPE TEST ANALYSIS REQUEST FORM (con't)

SAMPLE	DESCRIPTION OF WIPE	ISOTOPE	WIPE TYPE*
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			
26.			
27.			
28.			
29.			
30.			
31.			
32.			
33.			
34.			
35.			
<p>* TYPE OF WIPE (INSERT LETTER ABOVE): (Q) QUARTERLY SURVEY (T) TRANSPORTATION (I) INCIDENT (C) COMMODITY (K) KRAFT PAPER (O) OTHER (PLEASE SPECIFY IN COMMENTS)</p>			

Figure 2

Instructions for Completing Form

- (1) **FROM:** Your mailing address (where our Directorate sends the analysis results if you do not provide an E-mail address).
- (2) **TO:** Directorate for Safety mailing address (where you send the samples for analysis).
- (3) **SAMPLE:** Print this sample number on the corresponding NuCon wipe flap (not on the wipe itself) or vial cap submitted for analysis.
- (4) **DESCRIPTION OF WIPE:** Brief description of what you wiped, i.e., package, commodity (NSN), storage area survey wipe, locker, floor, shelf, etc.
- (5) **ISOTOPE(S):** List the radioactive isotope you want the wipe analyzed for, i.e., Tritium (H3), Radium-226 (Ra226), Strontium-90 (Sr90), Americium-241 (Am241), Thorium-232 (Th232), Promethium-147 (Pm147), Nickel-63 (Ni63), Cobalt-60 (Co60), Cesium-137 (Cs137), Plutonium-239 (Pu239), and Depleted Uranium (DU).
- (6) **WIPE TYPE:** Enter the type of wipe test performed: (Q) Quarterly Survey; (T) Transportation; (I) Incident; (C) Commodity; (K) Kraft Paper; or (O) Other (Please Specify in Comments)
- (7) **WIPE TAKEN BY:** Person who performed wipe test.
- (8) **DATE:** Enter the date the wipe test was performed.
- (9) **PHONE:** Your DSN and Commercial Numbers.
- (10) **COMMENTS:** Use this block to communicate with us. You can request more NuCon, Metrical/Whatman wipes, indicate administrative changes, or just give us more information about your request for analysis. Please send us your e-mail address.
- (11) **POC & ALTERNATE POC EMAIL ADDRESS:** Enter your email address and an alternate's.
- (12) **MY UIC:** Enter your unit identification code.

NuCon Wipe or Metrical Filter/Whatman #1 Which to Use and When?

NuCon Wipe: A 1.75 inch, cloth disk with an adhesive back. The NuCon wipe is used to detect removable gross alpha/beta contamination. It can be used to wipe packages, work surfaces, shelves, and perform leak test where the isotope is anything **other than H3 or Ni63**, i.e., Ra226, Sr90, Am241, Th232, Pm147, Co60, Cs137, Pu239, and DU.

Metrical: A 1.85 inch, **WHITE** (NOT BLUE) nitrocellulose membrane filter. It is used to collect **H3, Ni63 and other low energy beta emitting isotopes**. Metrical wipes are to be sent in vials; **DO NOT** mark or place labels on surface of vials, mark lids only.

Whatman #1: A 1.7 inch, **WHITE** cellulose paper filter. It is used to collect **H3, Ni63 and other low energy beta emitting isotopes**. Whatman #1 wipes are to be sent in vials; **DO NOT** mark or place labels on surface of vials, mark lids only.

Figure 3



NRC FORM 3 (10-2008)

UNITED STATES NUCLEAR REGULATORY COMMISSION Washington, DC 20555-0001

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

WHAT IS THE NUCLEAR REGULATORY COMMISSION? The Nuclear Regulatory Commission is an independent Federal regulatory agency...

WHAT DOES THE NRC DO? The NRC's primary responsibility is to ensure that workers and the public are protected from the health effects of ionizing radiation...

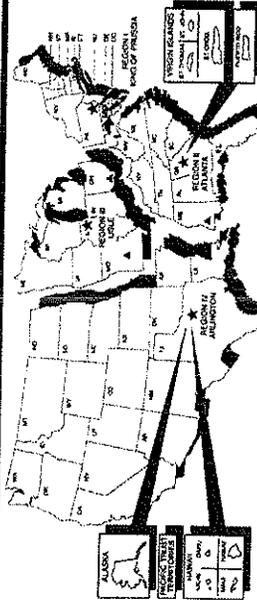
WHAT RESPONSIBILITY DOES MY EMPLOYER HAVE? Any company that conducts activities licensed by the NRC must comply with the NRC's requirements...

WHAT IS MY RESPONSIBILITY? For your own protection and the protection of your coworkers, you should know how to protect yourself from radiation...

WHAT IF I CAUSE A VIOLATION? If you are involved in an activity that may cause a violation of the NRC's requirements, you should report it to your supervisor...

HOW DO I REPORT VIOLATIONS AND SAFETY CONCERNS? If you believe that your employer has not protected workers from radiation, you should report it to the NRC...

HOW DO I FILE A DISCRIMINATION COMPLAINT? If you believe that you have been discriminated against because of your safety concerns, you should file a complaint with the EEOC...



▲ Callaway Plant Site in Missouri and Grand Gulf Plant Site in Mississippi are under the purview of Region IV. The Portsmouth/Gauley Bridge Plant in Ohio is under the purview of Region II.

HOW DO I CONTACT THE NRC? Talk to an NRC inspector in writing, or call or visit to the nearest NRC Regional Office. You may also call the NRC's toll-free 24-hour hotline...

CAN I BE FIRED FOR RAISING A SAFETY CONCERN? Federal law prohibits an employer from firing or otherwise discriminating against an employee for reporting a safety concern...

WHAT IF I WORK WITH RADIOACTIVE MATERIAL OR IN THE VICINITY OF A RADIOACTIVE SOURCE? If you work with radioactive materials or near a radiation source, the amount of radiation you are exposed to must be kept as low as reasonably achievable...

MAY I GET A RECORD OF MY RADIATION EXPOSURE? Yes, your employer is required to make available to you the information on your radiation exposure records...

HOW ARE VIOLATIONS OF NRC REQUIREMENTS IDENTIFIED? NRC conducts regular inspections of licensed facilities and also receives reports from the public...

MAY I TALK WITH AN NRC INSPECTOR? Yes, you may. If you have a safety concern, you should talk to your supervisor first. If you still have concerns, you can contact an NRC inspector...

HOW DO I FILE A DISCRIMINATION COMPLAINT? If you believe that you have been discriminated against because of your safety concerns, you should file a complaint with the EEOC...

WHAT CAN THE DEPARTMENT OF LABOR DO? If your employer violates a provision of the ERLA, you may file a complaint with the DOL. The DOL will investigate the complaint and may take action against your employer...

WHAT WILL THE NRC DO? The NRC will evaluate each allegation of non-compliance and determine whether sufficient information exists to initiate an investigation...

HOW DO I FILE A DISCRIMINATION COMPLAINT? If you believe that you have been discriminated against because of your safety concerns, you should file a complaint with the EEOC...

HOW DO I REPORT VIOLATIONS AND SAFETY CONCERNS? If you believe that your employer has not protected workers from radiation, you should report it to the NRC...

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UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICE LOCATIONS A representative of the Nuclear Regulatory Commission can be contacted by employees who wish to register complaints or concerns about radiological working conditions or other matters regarding compliance with Commission rules and regulations at the following addresses and telephone numbers.

Table with 4 columns: REGION, ADDRESS, TELEPHONE. Lists regional offices for Regions I, II, III, and IV with their respective addresses and phone numbers.

OFFICE OF THE INSPECTOR GENERAL HOTLINE 1-800-233-3487. To report incidents involving fraud, waste, or abuse by an NRC employee or NRC contractor.

NRC SAFETY HOTLINE 1-800-695-7403. To report safety concerns or violations of NRC rules by your employer.

Figure 4

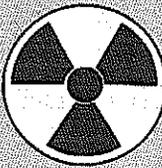
ARMY NATIONAL GUARD

RADIATION SAFETY





NOTICE



**NO EATING, DRINKING, SMOKING, CHEWING or
APPLYING of COSMETICS is PERMITTED in this AREA**

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

LOCAL RADIATION SAFETY OFFICER (LRSO): _____ PHONE # _____

ALTERNATE LRSO: _____ PHONE # _____

STATE RADIATION SAFETY OFFICER (SRSO): _____ PHONE # _____

RADIATION SAFETY STAFF OFFICER (RSSO) for the NATIONAL GUARD BUREAU (NGB):
CECOM LCMC DIRECTORATE for SAFETY: PHONE# DSN 987-7445; COM 732-427-7445

The following documents are available for review by contacting your LRSO or SRSO:

- Radioactive Materials Standing Operating Procedure (SOP) for this unit/storage area
- Applicable Technical Manuals (TM) & Technical Bulletins (TB)
- DA PAM 385-24, "Army Radiation Safety Program"
- NGR 385-11, "Radiation Protection Program"
- Nuclear Regulatory Commission (NRC) Licenses & Army Radiation Authorizations (ARA)
- Title 10, Code of Federal Regulations (CFR) Parts 19, 20, and 21.

The following documents must be posted in an area that is common to the workplace:

- NRC Form 3, "Notice to Employees" *(i.e. break room, safety board)*
- Section 206, Energy Reorganization Act
- Notice of Violations *(if applicable)*.

Post the following documents where radioactive materials are used, stored, or maintained:

- this RADIATION SAFETY NOTICE
- CAUTION – RADIOACTIVE MATERIAL Sign.

Contact your LRSO SRSO or the RSSO for further information and or assistance.

Figure 5

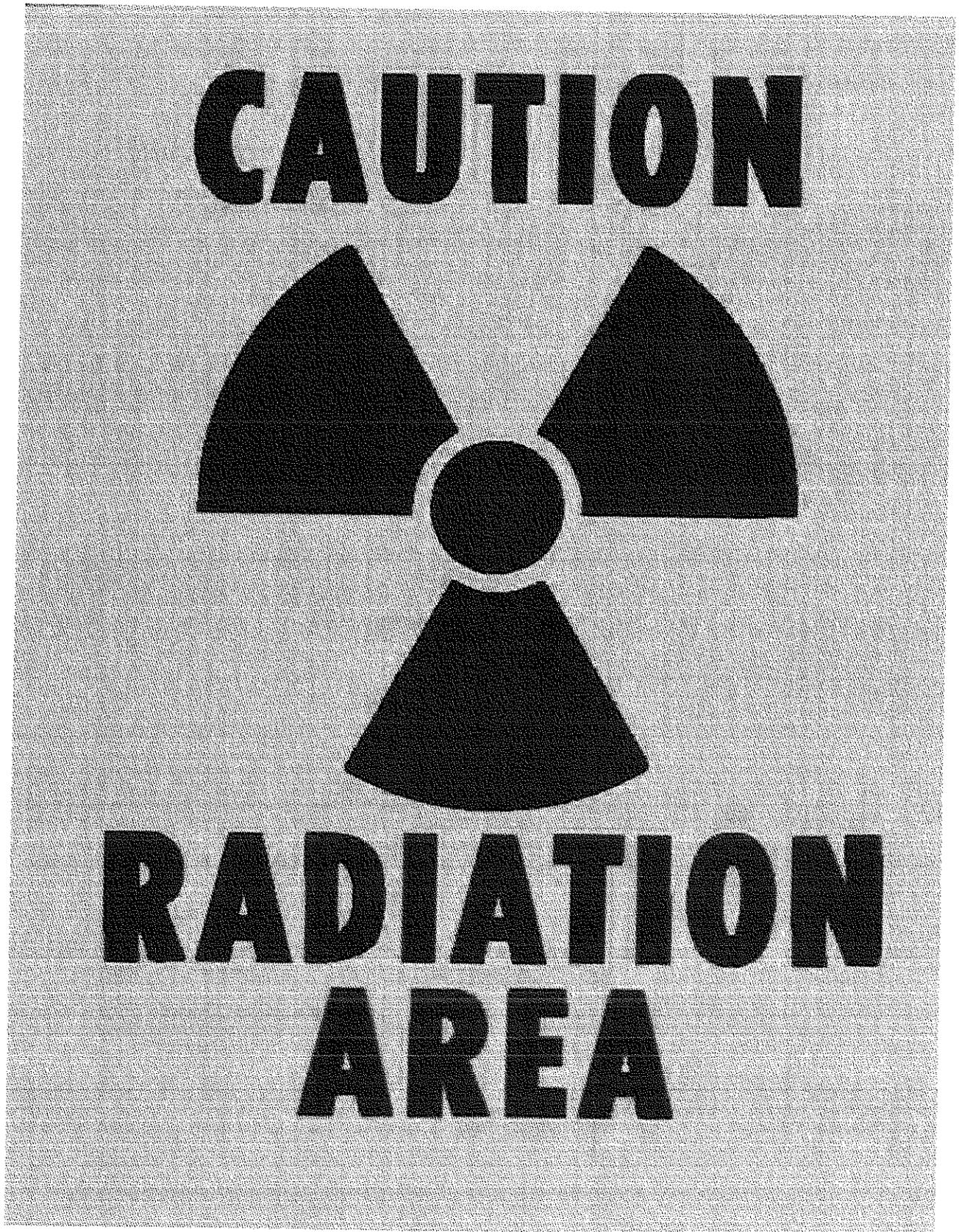


Figure 6



DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD OF KANSAS
ADJUTANT GENERAL'S DEPARTMENT
2800 SOUTHWEST TOPEKA BOULEVARD
TOPEKA, KANSAS 66611-1287

NGKS-ACS

22 February 2010

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Duty Appointment for State Radiation Safety Officer (SRSO)

1. CW2 Dan McLaughlin, is appointed as the State Radiation Safety Officer. CW2 Jay Hedke and SSG Kevin Durkes are appointed as Assistant State Radiation Safety Officers for the Kansas Army National Guard.

2. Authority:

- a. AR 385-10, The Army Radiation Safety Program, *RAR 001, 19 January 2010.
- b. DA Pam 385-24, The Radiation Safety Program, *RAR, 26 March 2009.
- c. NGR 385-11, Ionizing and Non-ionizing Radiation Protection, 18 February 1999.
- d. KS SOP 385-11, Radiological Safety and Health, 20 October 2004.

3. Purpose: To ensure administration and implementation of the State Radiation Safety Program.

4. Period: Until officially relieved or released from appointment.

5. Special Instructions: This appointment supersedes Radiation Safety Officer Duty appointment dated 10 January 2008.

FOR THE ADJUTANT GENERAL


 JOHN ANDREW
 COL, GS, KSARNG
 Chief of Staff

DISTRIBUTION: A

Figure 7



DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD OF KANSAS
ADJUTANT GENERAL'S DEPARTMENT
UNIT OF ASSIGNMENT
ADDRESS

WXXXXX

5 March 2010

MEMORANDUM FOR RECORD

SUBJECT: Unit Radiation Safety Officer Duty Appointment

1. Individual's Name, is appointed as the Unit Radiation Safety Officer.
2. Authority:
 - a. Title 10, Code of Federal Regulations (CFR).
 - b. DA Pamphlet 385-24, 26 March 2009.
 - c. National Guard Regulation (NGR) 385-11, Safety, Ionizing and Nonionizing Radiation Protection, 18 February 1999.
3. Purpose: To comply with the requirements of Title 10 CFR, DA Pam 385-24, NGB 385-11 and to serve as the Unit Radiation Safety Officer.
4. Period: Until officially relieved or released from appointment.
5. Special Instructions: This appointment supersedes all previous appointments.

COMMANDER'S SIGNATURE BLOCK
CPT, OD
Commander