



UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION NEW RIVER
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ASO 5104.1B
SD
19 DEC 2016

AIR STATION ORDER 5104.1B

From: Commanding Officer, Marine Corps Air Station New River
To: Distribution List

Subj: MARINE CORPS AIR STATION NEW RIVER RADIATION SAFETY
PROGRAM STANDING OPERATING PROCEDURES (SHORT TITLE: RSP
SOP)

Ref: (a) MCO 5104.3B
(b) NAVSEA Technical Manual S0410-00-RAD-010,
Radiological Affairs Support Program Manual
(c) NAVMED P-5055, Radiation health Protection Manual
(d) Title 10 Code of Federal Regulations
(e) Title 49 Code of Federal Regulations

Encl: (1) MCAS New River Radiation Safety Program Standard
Operating Procedures (RSP SOP)

1. Situation. This Order provides guidance for the safe use, handling, transportation, storage, and disposal of radioactive material (RAM) and non-medical X-Ray producing devices (X-Ray) aboard Marine Corps Air Station (MCAS) New River per references (a) through (e).

2. Cancellation. ASO 5104.1A.

3. Mission. MCAS New River shall provide guidance in complying with applicable regulations, orders, licenses, and permits to all government personnel and contractors working with RAM and X-Ray aboard the installation.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent

(a) MCAS New River shall implement a comprehensive Radiation Safety Program adhering to all regulations and standards in order to protect military and civilian personnel

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distribution is unlimited.

from the harmful effects of ionizing radiation. All exposures to ionizing radiation will be kept As Low As Reasonably Achievable (ALARA) as mandated by the references.

(2) Concept of Operations

(a) Personnel aboard MCAS New River will comply with this Order and the references.

(b) The Commanding Officer, MCAS New River shall conduct an annual review of the radiation safety program to ensure the program is fully implemented and its policies are enforced by subordinate and tenant commands, contractors, and any other activities or personnel granted access to the station.

(c) The Installation Radiation Safety Manager (IRSM) will have direct access to the Commanding Officer concerning enforcement of program requirements.

(d) All RAM sources shall be considered hazardous. Any use, possession, storage, transfer, or disposal activities involving such items is prohibited until appropriate safety precautions have been established. Personnel assigned to billets or tasked with duties dealing with RAM or X-Rays shall be appropriately trained and confirm that all provisions of this Order and all applicable references have been met prior to assuming their duties and beginning operations.

b. Tasks

(1) Installation Safety Manager (ISM). The ISM shall maintain overall cognizance of, and responsibility for the Installation Radiation Safety Program.

(2) Department Heads, Commanding Officers, and Directors. Sections having cognizance of or personnel who may come in contact with ionizing radiation will appoint in writing qualified Command Radiation Safety Managers (CRSM) and Radiation Protection Assistants (RPA) as needed to ensure compliance.

(3) Installation Radiation Safety Manager (IRSM). The IRSM shall oversee the conduct of the Radiation Safety Program as outlined in Chapter 1 of this Order.

(4) Command Radiation Safety Managers and Radiation Protection Assistants. Shall maintain responsibility for all RAM and X-Ray items within their work center and ensure compliance with this Order and all references. Tenant commands report to their RSM but shall notify the MCAS New River IRSM or Assistant Installation Radiation Safety Manager (AIRSM) of any issues regarding RAM or X-Ray.

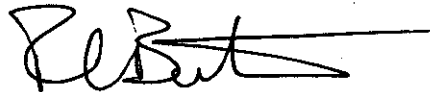
c. Coordinating Instructions. Submit all recommendations for changes to this Order to the MCAS New River Installation Safety Manager via the appropriate chain of command.

5. Administration and Logistics. This Order is published electronically and can be accessed online via MCAS New River Adjutant's web page at:
<https://newriver.mcieast.usmc.mil/Adjutant/Pages/default.aspx>.

6. Command and Signal

a. Command. This Order is applicable to all MCAS New River units and activities.

b. Signal. This Order is effective the date it is signed.



R. C. BURTON

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LOCATOR SHEET

Subj: MARINE CORPS AIR STAION NEW RIVER RADIATION SAFETY
PROGRAM STANDING OPERATING PROCEDURES
(SHORT TITLE: RSP SOP)

Location: _____
(Indicate the location(s) of copy(ies) of this Order.)

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RECORD OF CHANGES

Log completed change action as indicated.

Change Number	Date of Change	Date Entered	Signature of Person Incorporated Change

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Chapter 1

Radiation Safety Program Elements

1. Purpose. The RSP is designed to prevent the unnecessary exposure or contamination of personnel or equipment with ionizing radiation, ensure safe handling and operation of X-Ray producing devices, to identify the requirements for compliance with NRC licenses and Naval Radioactive Material Permits (NRMPs), and to establish procedures and practices for meeting these requirements. These procedures include provision for storage, use, possession, transportation and disposal of RAM and X-Ray producing devices as well as training required for personnel involved in any of these activities.

2. Background

a. Safety standards for ionizing radiation from radioactive material (RAM), X-Ray producing devices, and other sources of radiation are derived from a variety of federal regulations. The NRC has primary responsibility for regulating RAM and it grants permission to receive, possess, distribute, use, transport, transfer, and dispose of RAM under special conditions established in individual licenses.

b. COMNAVSEASYS COM Detachment, Radiological Affairs Support Office (RASO) at Yorktown, VA, manages the Radiological Affairs Support Program (RASP). The RASP includes responsibility for all aspects of radiation safety and control of radiation from licensable and non-licensable RAM, including radioactive waste, but excluding radioactive sources used for medical treatment or diagnosis, radioactivity associated with naval nuclear propulsion, and nuclear weapons.

c. The IRSM, appointed by the Commanding Officer, is responsible for coordinating the installation RSP of ionizing radiation physically located at the installation. This position is located in the Installation Safety Office aboard MCAS New River in building AS-211. The IRSM establishes internal audits, inspections and oversight procedures to ensure regulatory compliance and proper training, use, handling and control of RAM involving receipt, storage, shipping, emergency procedures, and disposal operations by station, visiting units, and tenant

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commands. Tenant commands report to their Radiation Safety Officer or Manager (Wing RSM).

d. The Command Radiation Safety Manager (CRSM) is the designated individual at a tenant command, user activity, or unit level, tasked with direct oversight of radiation safety practices and procedures. The CRSM ensures proper RAM shipping, receipt, and inventory tracking. The CRSM coordinates with the IRSM to ensure compliance with the installation RSP SOP. The CRSM provides oversight on all radioactive material held or relocated at the command, activity or unit, and promptly notifies the IRSM upon discovery of broken, damaged or missing radioactive sources or whenever radioactive contamination is found or suspected. The CRSM assists the RSM and ARSM in the management of local RSPs, including but not limited to inventories, audits, inspections, surveys, reviews, routine personnel dosimetry, bioassay collection, training, and emergency drills.

e. The Radiation Program Assistant (RPA) is the designated individual at a tenant command, user activity, or unit level, tasked with assisting the RSM. All instructions will be dictated by the IRSM/RSM. RPAs are designated in writing by their Commanding Officer. If the unit does not have a designated CRSM the RPA will be responsible for completing the CRSM duties in paragraph 4 of this chapter.

3. Policy. The goal of the RSP is to protect military and civilian personnel from the harmful effects of ionizing radiation. Therefore, all exposures to ionizing radiation will be kept ALARA. This is accomplished through the RSP which is consistent with applicable standards. All RAM, sources, and X-Ray producing devices shall be considered hazardous. Any use, possession, storage, transfer, or disposal activity involving such items is prohibited until appropriate safety precautions have been established. Personnel assigned to billets or tasked with duties dealing with RAM or X-Ray shall be appropriately trained and confirm that all provisions of this order and all applicable references have been met prior to assuming their duties and beginning operations.

4. Responsibilities

a. The Commanding Officer has the following responsibilities:

(1) Appoint in writing an Installation Radiation Safety Manager (IRSM) and Assistant Installation Radiation Safety Manager (AIRSM) who meet the qualifications as described in reference (a).

(2) Ensure the RSMs have direct access to the Commanding Officer (CO) for discussing matters dealing with radiation safety, including internal audits, inventories, inspections, surveys, reviews, operations and compliance.

(3) Ensure the RSMs have sufficient time and commitment to fulfill RSP duties and responsibilities defined by references and regulations.

(4) Ensure the RSMs have independent authority to stop RSP operations considered unsafe and authority to seek appropriate guidance and direction from counterparts at RADCON and RASO.

(5) Ensure command directives governing the RSP, including RSP operating and emergency procedures, are endorsed by the Commanding Officer, Marine Corps Air Station New River.

(6) Conduct an annual review of the RSP in order to ensure compliance with regulations, enforcement of requirements, and that the program meets the current needs of the station.

b. The IRSM/RSM has the following responsibilities:

(1) Oversee the conduct of the installation RSP and have independent authority to stop RSP operations deemed unsafe.

(2) Provide advice and assistance regarding all matters pertaining to radiation safety and shall act authoritatively for the Commanding Officer to ensure that personnel exposure to sources of ionizing radiation are maintained As Low As Reasonably Achievable (ALARA).

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(3) Establish and maintain liaison with the Radiation Health Officer (RHO) to coordinate the RSP in compliance with the Radiation Health Program (RHP).

(4) Conduct internal audits and inspections as required.

(5) Perform or coordinate radiation surveys/leak tests to ensure compliance with the references and NRMPs. Surveys/leak tests may be conducted via swipe samples and/or meter readings.

(6) Develop, coordinate, and participate in training and orientation programs for occupationally exposed individuals and other personnel as required by the references. Training will be conducted and evaluated annually or more frequently as required.

(7) Promptly report to the Commanding Officer and NAVSEADET RASO any violation of specific NRMPs, naval directives, or federal requirements, or any mishap, significant incident, personnel injury, suspected overexposure, spread of contamination, or internal deposition involving Ram sources or X-Ray emitting devices.

(8) Establish and maintain an Unwanted Radioactive Material (URAM) and Low Level Radioactive Waste (LLRW) storage site IAW the references and notify RASO of any inventory changes and disposal requests.

c. The Assistant Installation Radiation Safety Manager (AIRSM) shall assist the IRSM in maintaining an effective RSP and act as the IRSM in the absence of the IRSM.

5. Contractors and Other Non-DoD Agencies

a. Contractors and other non-DOD agencies shall implement their own RSP that meets all pertinent radiation protection standards. Where contractors are performing work aboard the Air Station, the following provisions apply:

(1) The contractor shall provide an RSM who will act as such for contractor personnel.

(2) Marine Corps personnel shall not perform radiation services for contractor personnel as performance of such functions could involve assumption of liability.

b. Where Marine Corps and contractor personnel are to work together in areas where RAM or ionizing radiation may be present, the contractor shall provide a separate radiation survey for his personnel. The contractor shall be informed of Marine Corps survey findings, location of RAM and radiation areas, and local controls used. However, the contracting officer or Officer in Charge of Construction (OICC) shall also inform the contractor that the contractor retains legal obligation for the safety of contractor personnel.

c. The contractor will provide the IRSM with an inventory of all radioactive source, X-Ray emitting devices and/or radioactive commodities that will be brought aboard the Air Station. The inventory will contain:

(1) Complete nomenclature of each source.

(2) Serial number of each source.

(3) Isotope.

(4) Activity in curies.

(5) Location.

(6) Date of the inventory.

(7) Contractor's NRC license number and the name and signature of the individual performing the inventory.

6. The Nuclear Regulatory Commission (NRC)

a. The NRC has the primary responsibility for regulating RAM. It grants permission to receive, possess, distribute, use, transport, transfer, and dispose of RAM under special conditions established in individual licenses.

b. The NRC has issued a Master Materials License to DoN, to control the receipt, acquisition, possession, use and transfer of NRC licensed RAM. The Navy Radiation Safety Committee (NRSC)

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was established to oversee the Naval RAM Permit (NRMP) program and to control the use of licensed material. The NRSC issues NRMPs to individual commands that have the authorization to use NRC regulated material as well as naturally occurring and accelerator produced materials.

c. All conditions and requirements contained in permits and licenses issued must be met by commands possessing, storing, using, and disposing of RAM and using machines that produce ionizing radiation.

7. General Requirements

a. Each unit's RPAs must maintain an updated inventory of RAM located in the work area. The inventory will include:

- (1) Item nomenclature.
- (2) National Stock Number (NSN).
- (3) Radioactive source ID number.
- (4) Radioisotope.
- (5) Chemical and physical form.
- (6) Activity (in curies) and date determined.
- (7) Location.
- (8) Custodian's name.

b. Each operation involving RAM or X-Ray must have an SOP specifically tailored for the operation being conducted. As a minimum, the SOP will include:

- (1) The purpose and objective of the operation.
- (2) Applicability.
- (3) Responsibilities.
- (4) Procurement.

- (5) Storage.
- (6) Inventory.
- (7) Surveillance.
- (8) References.
- (9) Safety procedures (including specifics for use and handling).

c. Safety procedures in the SOP will include:

- (1) Specific purpose.
- (2) Philosophy.
- (3) Safety rules.
- (4) Instructions to personnel.
- (5) Radiation protection standards.
- (6) Surveys.
- (7) Caution signs.
- (8) Labels and signals.
- (9) Radiological procedures and reporting.

d. RAM, including radioactive commodities, requires special storage procedures. At a minimum all storage areas containing RAM and the entrances to these areas shall be labeled with signs containing the radiation symbol and the words "Caution - Radioactive Material." Areas used for storage of RAM will be kept to a minimum to facilitate adequate control. Small radioactive sources containing more than one millicurie of activity shall be stored in locked areas or cabinets, access to which is limited to authorized individuals. All loss of control of RAM will be reported to the supervisor, CRSM, RPA, IRSM/Wing RSM as soon as they are noted. This includes temporary misplacement, loss, theft, or unauthorized access.

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e. RAM will not be stored in the same warehouse section with flammables, explosives, photosensitive items, food products or other incompatible goods. Proper selection of a fire resistant storage area for RAM will minimize release of radioactivity to the environment in the event of a fire. Whenever feasible, RAM shall be stored in fire resistant containers to minimize contamination spread. RAM shall be stored so that they are protected from adverse weather or conditions which may deteriorate the packaging materials. Commodities that contain radioactive gases, tritium-containing devices, or radium shall be stored in ventilated structures. Smoking, eating, drinking, chewing, and contact lens application or removal will not be permitted in RAM storage areas.

f. A current list of locations where RAM is stored shall be available to personnel who might be called to fight a fire in such areas. This list should identify any unusual problems which might be encountered.

g. Reasonable care shall be taken in packaging and storing contaminated items to prevent the spread of contamination and to ensure that entry to areas where such storage is permitted does not result in the contamination of personnel or other areas. Personnel in potentially contaminated storage areas shall wear necessary anti-contamination clothing.

h. A radiation emergency can occur where RAM or radiation-producing equipment is used, stored or transported. Emergency plans are included in the NRMP application. Emergency plans include:

(1) Procedures to identify conditions constituting an emergency.

(2) A list by priority of individuals and departments to be notified.

(3) Steps to control radiological exposure; and actions to be taken including official notifications required.

i. Emergency plans shall be reviewed and updated at least annually and an exercise of the emergency plan shall be conducted at least annually under realistic conditions.

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j. Title 10 CFR 19.11, "Posting of notices to workers," requires that each licensee shall post current copies of the regulations contained in part 20, operating procedures applicable to licensed activities, any notice of violation involving radiological working conditions, proposed imposition of civil penalty, or other actions by the NRC. If posting of a document is not practicable, a notice may be posted which describes the document and states where it may be examined in accordance with reference (e).

k. NRC Form 3, "Notice to Employees," must be posted in all areas where RAM is used or stored. The required form can be acquired at the RADCON website (www.logcomm.usmc.mil/radcon) or from the RPA/CRSM/IRSM.

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Chapter 2

Radiation Safety Training Requirements

1. Purpose

a. The development of worker awareness of RSP permits the performance of tasks with greater efficiency and confidence.

b. When individuals are aware that there is some risk associated with their exposure, they can become active participants in the decision to accept and, where possible, reduce the risk as part of their job.

c. The number and seriousness of accidents and incidents can be reduced through training.

2. Medical Requirements

a. Per reference (e), all personnel who are being considered for routine assignments to duties or occupations which require exposure to ionizing radiation shall be given a medical examination prior to assignment or transfer to those duties.

b. Personnel who are not routinely exposed to ionizing radiation as a result of their normal duties or occupation and are not likely to exceed 0.5 rem (Roentgen Equivalent Man, a unit used to measure radiation exposure) per year are not required to have pre-placement medical examinations.

c. Pre-placement and subsequent medical examinations shall be provided to all of the following personnel:

(1) X-ray and gamma radiographers and radiographers' assistants.

(2) All personnel whose duties may require entry into a high radiation area [100 mrem (milli-rem, a unit indicating 1/1000 rem) or higher in one hour].

(3) All personnel required by conditions of individual Naval RAM Permits (NRMPs).

(4) All personnel who routinely work with unsealed radium sources containing greater than 0.1 microcuries of radium or with unsealed sources of RAM greater than the exempt quantity limits specified in Schedule B of 10 CFR 30.

(5) All personnel deemed necessary by the Commanding Officer.

3. Responsibility. All Commanding Officers have the responsibility to ensure that occupationally exposed personnel under their jurisdiction maintain exposure to ionizing radiation ALARA. A part of ALARA is the assurance that each person has received radiation safety training commensurate with their potential for occupational exposure to ionizing radiation. All training must be documented.

4. Training Requirements

a. Prior to assuming the duties of RSM or ARSM, the prospective appointee shall successfully complete initial qualification training at NAVSEADDET RASO. Courses offered and required by RASO can be found in reference (c), Section II. RPAs shall be trained by the supervising RSM with refresher training provided annually.

b. Each military gamma radiographer and radiographers' assistant shall successfully complete the Radiographic Operator Course (A-701-0032) at Service Schools Command, San Diego.

c. Civilian radiographers shall successfully complete the radiation safety training specified in their individual application for a NRMP to conduct gamma radiography.

d. All gamma radiographers will receive formal training on local command operating and emergency procedures and annual refresher training in radiation safety procedures and regulations specified and described in their individual application for a NRMP to conduct gamma radiography.

e. Initial training for x-ray radiographers shall consist of the successful completion of one of the courses specified in reference (c), Section 2.2.3.

f. Annual refresher training including the topics listed in reference (c) shall be provided by the command.

g. Completion of refresher training shall be documented by the student's attaining a score of 80 percent or better on a written exam.

h. Additional training shall be conducted each time there is a substantial change in equipment or operating procedures.

i. Periodic training shall be conducted by the RSM, designated representative, or both.

j. Radiography radiation barrier monitors shall receive initial training consisting of the topics listed in reference (c), Section 2.2.4. A score of 80 percent or better on a written examination is required for documentation of successful completion of initial training. Annual refresher training shall be conducted by the RSM or a designated representative.

k. Radiation workers are personnel who are occupationally exposed to ionizing radiation. They work in controlled areas and are required to have a physical examination. Initial training for radiation workers consists of a minimum of:

(1) Eight hours covering the subjects in reference (c) with a final written examination score of 80 percent or better.

(2) Annual refresher training will be conducted consisting of topics listed in reference (c), Section 2.2.5 and consist of a minimum of four hours duration.

(3) Training will be conducted by the RSM or a designated representative.

l. Limited radiation workers are personnel who are not exposed to ionizing on a routine basis and who do not require a physical examination. Their sporadic exposure is monitored. Each limited radiation worker will receive initial and annual refresher training on the topics listed in reference (c), section 2.2.6.

m. Prior to being issued dosimetry equipment, all personnel authorized to receive radiation exposure shall be given specific

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instruction about prenatal exposure risks to the developing embryo and fetus. All reasonable efforts shall be made to keep ionizing radiation exposure to the unborn child to the very lowest practical level. The radiation exposure control level for personnel physically capable of bearing children shall not be extended beyond 0.5 rem per year whenever the "declaration of pregnancy" in Appendix A of reference (f) has been signed. This declaration will be kept in the individual's training record and a copy provided to your RPA/CRSM/IRSM. Instruction concerning prenatal exposure to the unborn child shall also be given to personnel who supervise female workers authorized as above, because they affect the amount of radiation exposure a female worker receives. Instruction concerning prenatal exposure to the unborn child shall be given by the RPA/CRSM/IRSM during initial and annual training. The U.S. NRC Regulatory Guide 8.13 shall be available and a copy given to individuals receiving the training. No examinations are given but training shall be documented.

n. All emergency response personnel who could be exposed to ionizing radiation during the performance of their duties shall receive initial and periodic training. Training will include:

- (1) Information on sources of radiation in areas where they may be required to respond.
- (2) Potential hazards associated with those sources.
- (3) The relative priority of radiological controls versus other safety considerations during an emergency.
- (4) Procedures to avoid or reduce potential radioactive contamination in emergency response situations.
- (5) Personal radiation safety requirements for personnel entering radiation areas under emergency conditions.
- (6) Familiarization with the physical layout of facilities.
- (7) Personnel to contact to provide radiological controls support during or after an emergency.

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(8) Initial training shall be a minimum duration of two hours.

(9) Periodic training shall be given annually covering the scope of the initial training and additional training will be provided whenever there is a significant increase in radiation exposure potential.

(10) Training shall be conducted by the RSM or a designated representative.

o. Personnel who are required to operate X-Ray emitting devices or those assigned to work centers in which these devices are located shall receive training including:

(1) Need to heed radiation warning signs and boundary markers.

(2) Nature of potential radiation exposures and methods to avoid exposure.

(3) Controls used to protect them from radiation exposure.

(4) Safe operation procedures as per the manufacturers recommendations.

(5) Initial and annual training will be provided by the manufacturer or by a person trained by the manufacturer to conduct training on the device.

p. Other organization personnel who routinely work in or frequent areas adjacent to radiation areas and RAM storage areas shall receive training including:

(1) Need to heed radiation warning signs and boundary markers.

(2) Nature of potential radiation exposures (including those from natural background radiation and medical exposures).

(3) Controls used to protect them from radiation exposure.

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(4) Initial and periodic training will be given by the
RPA/CRSM/IRSM.

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Chapter 3

Transportation of Radioactive Material

1. General. Transportation of RAM is generally considered to be very complicated because it is regulated by more than one agency and the requirements are contained in more than one section of each agency's regulations. Transportation of RAM must comply with military, NRC, and Department of Transportation (DOT) regulations. Personnel assigned to duties related to transportation of RAM must be appropriately trained according to Title 49 of the Code of Federal Regulations. Do not transfer radioactive commodities or RAM shall not be transferred to Defense Reutilization and Marketing Offices (DRMO). The shipper of record is ultimately responsible for compliance. Contact your RPA/CRSM/IRSM for further instructions.

2. Purpose. The RAM Movement Form is used to maintain an accurate record of the change of location or custody of RAM, sources, commodities, or items containing RAM. This form should be completed in addition to any other required documents, whenever transfers or changes of custody of items involving ionizing radiation take place. One copy should be retained by the unit transferring the item, one copy should be given to the receiving unit, one copy should be given to the appropriate supply activity, and one copy should be sent to the IRSM.

3. Traffic Management Office (TMO)

a. Traffic Management Office (TMO) first determines if the material is subject to the regulations.

b. TMO determines the specific regulations that are applicable by determining the form and quantity of the material and determining the type of packaging required.

4. Carriage

a. RAM may not be transported in a private motor vehicle.

b. Only RAM used for medical or research purposes with a transport index less than 3.0 may be shipped in a passenger plane's cargo hold. Special provisions apply. RAM shipped by cargo plane must display a "Cargo Only" label.

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5. Disposition

a. Disposition instructions should be requested from the Integrated Logistics Support Directorate (ILSD), Albany, Georgia before any movement of RAM. The request for instructions for disposition of excess, defective or serviceable radioactive items may be made by message or letter. Provide the ILSD with the quantity, NSN, serial number, condition codes, applicable NRC license or NRMP numbers, and any other identifying or amplifying information. State in the remarks section if the item contains "Tritium Sources" or "Radioactive Materials."

b. The ILSD will provide detailed disposition instructions for repairable items per current maintenance agreements and non-repairable items.

c. Information copies of disposition instructions should be sent to the Logistics Radiation Safety Officer (LRSO), and appropriate RPO's at MCLB Albany, who will initiate tracer actions on shipments not received within 120 days. Copies of disposition instructions for local transfers should be sent to the IRSM, MCAS NR.

6. Shipping

a. Consult DOT regulations before any shipment of RAM to ensure compliance with current regulations. The shipper of record is ultimately responsible for compliance with DOT regulations for shipment of hazardous materials.

b. Ship intact Marine Corps radioactive commodities, unless otherwise specified, using the Proper Shipping Name "Radioactive Material, Excepted Package-Instruments or Articles" under the provisions of DOT regulations in Title 49 CFR 173.422. Items under the cognizance of other services or commercial activities may require the use of other shipping names or procedures.

c. Package shipments of each radioactive commodity according to individual packaging data sheets (PDS) or special packaging instruction (SPI) or with the requirements of 49 CFR if the PDS/SPI do not meet these requirements.

d. Transport aboard the installation by motor vehicle must comply with all applicable regulations. The NRC requires that all RAM must be transported according to DOT regulations even when the material or item is not "in commerce." While being transported within the confines of the Air Station, DOT regulations apply.

e. Transportation and shipping off the installation will coordinate with and be handled by TMO.

7. Receipt

a. Arrangements to receive a package containing RAM must be made when the carrier offers it for delivery or when notified of the arrival of the package at the carrier's terminal.

b. Packages known to contain RAM must be monitored for radioactive contamination and radiation levels not later than three hours after receipt:

(1) When the package is labeled as containing RAM.

(2) When the package has evidence of potential contamination, such as packages that are wet, crushed, or damaged.

c. A record of the required surveys must be maintained by the receiving unit.

Chapter 4

Disposal of Radioactive Material

1. Definition

a. Low Level Radioactive Waste (LLRW) includes:

(1) Surplus, unwanted or unserviceable devices that are identifiable as containing RAM.

(2) Commodities that are identifiable as containing RAM.

(3) Instruments or articles that are identifiable as containing RAM.

b. LLRW also includes RAM for which there is no longer a useful purpose or property contaminated with RAM to the extent that decontamination is economically unfeasible. The item manager will advise users if the item may be turned in for reconditioning rather than disposal.

2. Turn in procedure

a. LLRW can not be disposed of as ordinary waste or hazardous waste. It may not be turned in to DRMO.

b. An inventory of LLRW for transfer and disposal and RAM Movement Form must be forwarded to the responsible RSM as soon as the waste is identified or the item is deemed unwanted. RAM Movement Forms may be acquired at the RADCON website (www.logcom.usmc.mil/radcon) or from the RPA/CRSM IRSM.

c. The user will provide a copy of the turn in document to the user's supply facility when the LLRW is moved to the waste storage site. The user will notify the receiving RSM prior to moving the RAM. Note: when packaging the item keep in mind that the RSM will need to verify information such as quantity, isotope, activity, and serial numbers, etc. prior to accepting the item for storage/disposal.

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3. RSM Responsibilities

a. The RSM receiving the LLRW will add the items to the inventory and update the request for picked up.

b. The RSM will arrange for the LLRW to be moved to the LLRW storage site where it will be held until it is picked up.

c. When the waste is picked up for disposal, the RSM will be provided copies of the documentation.

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Chapter 5

General Emergency Guidelines

1. Introduction

a. Each unit handling, storing, using, transporting, receiving or disposing of sources of ionizing radiation, RAM, commodities containing RAM, or devices capable of producing X-Rays shall have specific guidance as outlined in Chapter 1 and training as described in Chapter 2.

b. The emergency guidelines in this chapter are general in nature. They will be used when an incident involving breakage or other exposure of personnel to RAM (or radioactivity produced from any source) is discovered by personnel whose positions are not covered by a radiation SOP.

2. Emergency Guidelines

a. In the case of an incident involving RAM, the senior person present shall take immediate steps to control the emergency and request assistance from emergency personnel and the RPA/RSM as required.

b. The initial objective of any accident response involving RAM is to regain control over the event and prevent further spread of any radioactive contamination produced.

c. Actions to save life, aid the injured, fight fires, or control further spread of damage take precedence over concerns for radiological contamination that may arise from fielded Marine Corps equipment.

3. General steps

a. In order to minimize personnel exposure from possible internal contamination, notify personnel in the immediate area to move away. Sound the alarm.

b. In the case of tritium gas, vacate the immediate area and remain upwind for at least 30 minutes or until directed by the emergency personnel and/or RSM to reenter.

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c. In case of fire stay away from the downwind smoke. Move upwind a minimum of 100 meters, or further when directed by emergency response personnel. The self-contained breathing apparatus worn by firefighters will provide short-term protection against inhalation of airborne radioactive contamination.

d. As soon as possible, notify the RSM to ensure proper follow-up actions.

4. Contamination control

a. Devices with broken sources and any resulting debris should only be handled while wearing rubber or plastic gloves.

b. Devices with broken sources and any resulting debris should be double wrapped by inserting them into two plastic bags and sealing each (inner and outer bag) with tape. Clearly label the package as containing a radioactive contaminated device or materials. Provide as much information as possible on the item and the type and amount of RAM it contains. Retain all broken or non-illuminative devices for disposal as radioactive waste.

c. Personnel who may have received contamination on bare skin should wash with a mild soap and plenty of tepid water. Care should be taken not to irritate or abrade skin. NAVMEDCOM Instruction 6470.10, available at Navy medical commands, offers useful technical guidance for handling radioactively contaminated personnel and monitoring procedures for various radioisotopes. All personnel suspected of exposure to radiation should be evaluated by a health professional.

d. Contamination of the immediate area or on the major end item should be considered a possibility based on the circumstances of the incident and on radiological measurements. Potentially contaminated areas are not to be open for normal access or potentially contaminated equipment returned to service until determination by emergency personnel and/or the RSO that radioactive contamination did not occur or that contamination levels have been reduced to below the allowable limits.

Enclosure (1)