UNITED STATES MARINE CORPS
MARINE CORPS LOGISTICS BASE
814 RADFORD BOULEVARD SUITE 20302
ALBANY GEORGIA 31704-0302

MCLBAO 5104.3C
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MARINE CORPS LOGISTICS BASE ALBANY ORDER 5104.3C

From: Commanding Officer, Marine Corps Logistics Base Albany
To: Distribution List

Subj: RADIOLOGICAL AFFAIRS SAFETY PROGRAM

Ref: (a) NAVSEA S0420-AA-RAD-010 (RAD-10)
(b) MCO 5104.3B
(c) NAVMED P-5055
(d) NRC License 12-00722-06
(e) Title 10 Code of Federal Regulations, Parts 0-199
(f) Title 49 Code of Federal Regulations, Parts 100-185
(g) SECNAV M-5210.1

Encl: (1) Radiological Affairs Safety Program Procedural Guidance

1. Situation. As directed by guidance in references (a) through (g), this Order provides policy and assigns responsibility for administering the Radiological Affairs Safety Program (RASP).

2. Cancellation. BO 5104.3B.

3. Mission. This Order establishes formal program requirements for working with radioactive material (RAM) and machine sources of ionizing radiation aboard Marine Corps Logistics Base (MCLB) Albany in order to ensure the safety of the base workforce and the general public while keeping exposure to ionizing radiation as low as is reasonably achievable.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent

(a) Enhance unit and individual readiness by maintaining an effective RASP per reference (b) and compliance with pertinent regulations.

(b) Control sources of ionizing radiation to minimize personnel exposures to a level as low as reasonably achievable (ALARA) and to prevent contamination of personnel, equipment, and facilities.

(c) Provide guidance and requirements for implementing references (a) through (g), for sources of ionizing radiation used aboard MCLB Albany.

(2) Concept of Operations

(a) This Order shall be the governing document for ionizing radiation safety aboard MCLB Albany. All RASP activity aboard MCLB Albany shall be conducted in accordance with this Order and the references.

(b) The Installation Radiation Safety Manager (IRSM) has oversight over all radiation safety programs and operations involving RAM conducted aboard the Installation.

(c) The Command Radiation Safety Officer (CRSO) is directly responsible for all radiation safety programs and operations involving radioactive materials conducted under their command.

(d) The Defense Logistics Agency Distribution Albany Georgia (DDAG) operates under the authority of a Nuclear Regulatory Commission (NRC) license and is exempt from the provisions of chapters 1, 6, and 8 of this Order.

b. Subordinate Element Missions

(1) Installation Safety Manager

(a) Maintain staff cognizance over the Installation Radiation Safety Manager (IRSM) and be responsible for monitoring the effectiveness of the RASP.

(b) Budget, forecast, and provide for procurement or replacement of equipment, materials, and calibration or repair services for the equipment used by the IRSM to respond to emergencies and monitor compliance.

(2) IRSM

(a) Ensure the MCLB Albany and tenant command RASP activities are conducted in accordance with this Order and the references.

(b) Conduct RASP reviews of MCLB Albany and tenant commands at least annually.

(c) Respond to emergencies at RASP activities and provide advice to first responders regarding any radiological concerns related to the incident.

(d) Provide radiation safety services to all organizations aboard MCLB Albany (e.g. technical advice, assistance in training RASP personnel, and health physics support).

(3) Commanders, Commanding Officers, Officer in Charges, or Directors of tenant organizations conducting Naval Permitted Activity. Tenant commands that operate under a Naval Radioactive Materials Permit (Permit) or conduct X-ray radiography shall appoint, in writing, a CRSO and Alternate RSO (ARSO) if the Permit stipulates. The appointed individual has direct access to their appointing authority on matters dealing with radiation safety and has the authority to suspend radiological operations within their command they consider unsafe.

(4) CRSO and ARSO. The CRSO and ARSO are appointed in writing by the command individual identified in the Permit. The CRSO/ARSO shall ensure that their organization complies with Permit conditions, the references, and this

Order. In addition a CRSO/ARSO shall:

(a) Provide the IRSM copies of any Permit amendments as soon as they are issued.

(b) Ensure that organization personnel comply with Permit conditions, participate fully in the radiation health protection program, and conduct all work in accordance with their local instructions, and this Order.

(5) Commanders, Commanding Officers, Officer in Charge, or Directors of tenant organizations. Tenant commands that do not operate under a Permit or conduct X-ray radiography shall appoint, in writing, a Unit Radiation Safety Manager (URSM). The appointed individual has direct access to their appointing authority on matters dealing with radiation safety and has the authority to suspend radiological operations within their command they consider unsafe.

(6) URSM. A URSM is the individual responsible for the coordination and management of the tenant Command's RASP and shall:

(a) Develop written RASP instructions. RASP instructions shall ensure that day to day RASP activity complies with this Order and all applicable regulations. Instructions shall include operating and emergency procedures for all RASP activities.

(b)At least annually conduct a program review to ensure that RASP personnel are conducting operations in accordance with this Order and local instructions by reviewing their operation for compliance with this Order.

(c)Provide the IRSM upon request the inventories, surveys, program reviews, training documentation and other RASP related documents in accordance with this Order.

(7) Division Directors and Special Staff, MCLB Albany. Ensure compliance with this Order by your respective organization and ensure that subordinate staffs comply with requests for inventories, leak tests and other RASP-related activity required by Naval Permit, the reference (b), and this Order.

(8) Chief of Police, Marine Corps Police Department. Ensure that police officers are trained annually regarding the hazards associated with ionizing radiation that they may be exposed to during performance of duties, and in accordance with Chapter 6 of this Order.

(9) Fire Chief, Marine Corps Fire Department. Ensure that Fire Fighters are trained annually regarding the hazards associated with ionizing radiation that they may be exposed to during performance of duties, and in accordance with Chapter 6 of this Order.

(10) Contracting Officers. Request authorization from the IRSM prior to authorizing contractors to bring radioactive material or equipment that generates ionizing radiation aboard the installation. Contractors that possess a Nuclear Regulatory Commission or Agreement State license may be

permitted to conduct work utilizing ionizing radiation in accordance with Chapter 7 of this Order.

(11) Public Works Officer. Request authorization from the IRSM before requesting work that requires contractors to bring radioactive material or equipment that generates ionizing radiation aboard the installation.

(12) Officer in Charge, Naval Branch Health Clinic (NBHC) Albany. Ensure that an effective Radiological Health Protection Program is implemented and:

(a) Provide periodic ionizing radiation (IRAD) medical examinations to radiation workers in accordance with reference (c) and Chapter 1 of this Order.

(b) Provide dosimetry results to the IRSM and Command RSOs on a periodic basis, in accordance with reference (c).

(c) Immediately inform the IRSM in the event that a radiation worker fails an IRAD examination.

(13) Radiation Workers (RAD Workers). Personnel conducting activities authorized by this Order shall comply with all provisions of the order and all pertinent regulations and local procedures. If other requirements are more stringent than those in the order, i.e. permit or license conditions, the more stringent requirement shall override the requirements of the order.

5. Administration and Logistics.

a. The IRSM will ensure this Order is maintained current with all regulatory requirements. Recommended changes concerning the contents of this Order may be forwarded to Risk Management, Public Safety Division via the appropriate chain of command.

b. Records created as a result of this order shall include records management requirements to ensure the proper maintenance and use of records, regardless of format or medium, to promote accessibility and authorized retention per the approved records schedule and reference (g).

6. Command and Signal

a. Command. This Order is applicable to MCLB Albany and all tenant commands and organizations.

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

DONALD J. DAVIS

DISTRIBUTION: A

LOCATOR SHEET

Subj: RADIOLOGICAL AFFAIRS SAFETY PROGRAM

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

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 HEALTH PROTECTION PROGRAM

1. Radiation Safety Committee. The purpose of a RASP safety committee is to identify, define and assess RASP issues, problems, and needs and recommend corrective measures. This forum provides an opportunity for the multiple viewpoints and interests of various groups and individuals aboard the installation to be expressed. The MCLB Albany RASP Safety Committee serves as the coordination center for all radiation operations aboard the installation. The Committee will meet quarterly, with the MCLB Albany IRSM as chair, in the afternoon of the date of the MCLB Albany Commanding Officer's Safety Council meeting. The membership will consist of: MCLB Albany IRSM; MCLC RADCON; PPA CRSO; DMC/FSD URSM; DDAG CRSO; Designated representatives from Chemical, Biological, Radiological, and Nuclear Explosives (CBRNE)/Emergency Operations Center (EOC); MCPD; and MCFD.

2. Radiation Workers

a. Radiation Workers are defined in Chapter 1, Article 1-5 "Definitions" of reference (c). In addition, some workers are required to participate in medical surveillance due to specific Permit conditions; those workers shall also be considered "Radiation Workers" in this Order.

b. NBHC Albany is responsible for scheduling and conducting Industrial Radiation (IRAD) medical exams.

c. Tenant commands shall maintain and continuously update a roster of Radiation Workers that are employed by the command. The roster will be available for review at all times. Roster shall contain the following information: name; date of birth; work activity (e.g. "X-ray radiography"); date of last IRAD Exam; and due date of next IRAD Exam.

d. Radiation Workers shall comply with the provisions of reference (c) regarding the need and frequency for IRAD medical surveillance.

3. Tritium Workers

a. Personnel that conduct depot level maintenance at the Production Plant Albany (PPA) Tritium Instrument Repair Room perform work under conditions of the Army license BML-12-00722-06, issued to the U.S. Army Tank-Automotive and Armaments Command (TACOM) Life Cycle Management Command, Rock Island Arsenal, IL. (reference (d)).

b. As determined by the TACOM license Radiation Safety Officer (license RSO), tritium workers may be directed to participate in bioassay collection in the event of an incident involving accidental release of tritium.

c. The license RSO shall direct any required medical surveillance, with the assistance of the Command Radiation Safety Officer (CRSO), Unit Radiation Safety Manager (URSM), or IRSM and the NBHC Albany as requested.

4. Dosimetry

a. Personnel Monitoring. Personnel required to wear dosimetry by permit conditions, as well as radiation workers participating in radiographic operations, shall have dosimetry assigned to them that is provided by NBHC Albany, in accordance with the requirements of Reference (a). The command RSO shall establish controls and procedures for the issuance and handling of personnel dosimetry.

b. Environmental Monitoring

(1) Per Reference (a) while conducting work that generates ionizing radiation, environmental monitoring in areas accessible to the general public shall be performed to verify the dose limits for a member of the general public are not likely to be exceeded.

(2) Altering the number and location of Thermoluminescent Dosimeters (TLDs) used for environmental monitoring shall be coordinated between the CRSO/URSM and the IRSM.

(3) Dosimetry TLDs used for environmental monitoring shall be posted in such a manner as to prevent loss or damage.

5. Exposure Records

a. The NBHC Albany is responsible for providing and issuing TLDs, arranging for evaluation of exposure, and reporting exposure results to the IRSM and command RSOs.

b. Immediately notify the cognizant IRSM, CRSO or URSM if the NBHC Albany staff become aware of any TLD results that exceed the administrative control limits of 125 mRem per quarter or 500 mRem per year. The worker who received the dose will be removed from radiation work, until authorized by the cognizant CRSO, URSM or IRSM to return to work involving ionizing radiation.

c. NBHC Albany shall provide TLD dosimetry results to the command to which the TLDs are issued each reporting period, approximately every 6 weeks.

d. The CRSO/URSM shall review each exposure report and notify the Radiation Workers in their command each time they receive TLD exposure reports of their:

(1) Exposure for the period of the report.

(2) Cumulative exposure for the calendar year.

(3) Annually, prior to 1 April of each year, an "Annual Report of Personnel Exposure to Ionizing Radiation to the Individual" shall be provided to Radiation Workers.

e. The CRSO/URSM shall, at least annually, conduct and document a formal review of exposure reports. The primary purpose of the review is to identify operations with high exposures. Suggestions for reducing exposure shall be noted in the review. The review shall be forwarded to the IRSM.

f. Results of any Army license RSO directed bioassay shall be retained in the tritium workers' medical record by NBHC Albany.

g. Exposure records shall be documented and maintained per Reference (c).

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Chapter 2

INVENTORY REQUIREMENTS

1. General

a. Each organization shall maintain a complete and accurate inventory of radioactive materials (RAM) and machine sources of ionizing radiation that they possess.

b. Naval Permit, NRC licensing conditions and other regulatory agencies require that organizations periodically conduct inventories of licensed or permitted materials and/or machine sources of ionizing radiation in their possession. Inventories conducted to comply with these requirements for items that are physically located on the installation shall be forwarded to the IRSM when completed.

c. An inventory of all RAM in an organization's possession shall be reported to the IRSM no later than 31 July of each year of all radioactive material possessed by the command on 30 June of that year. The data provided will be consistent with the inventory requirements of reference (a). Inventories conducted in paragraph 1.b above are in addition to the requirements of the annual inventory.

d. An inventory of machine sources of ionizing radiation shall be reported to the IRSM by 31 July every year. The date of the inventory shall be no earlier than 30 June of the year in which it is reported. The inventory data shall be consistent with the requirements of Reference (a).

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Chapter 3

SHIPPING, RECEIVING, AND LOCAL TRANSFER OF RADIOACTIVE MATERIAL

1. Shipping Radioactive Materials (RAM)

a. Shipment of RAM off base is regulated by the Department of Transportation (DOT). The only DOT-compliant shipper on base is the DDAG. All RAM shipments shall be prepared by DDAG.

b. Any organization on base needing to ship RAM off base must first ensure that the organization to which the RAM is being shipped is authorized to receive the RAM.

c. DDAG is responsible for complying with DOT regulations for preparing proper shipping papers and documents, packaging, marking, and labeling the RAM shipment.

2. Local Movement of RAM

a. Transfers of RAM on base shall be documented as follows:

(1) The initiator of a local movement of RAM shall prepare a Radioactive Material Custody Transfer Form (transfer form) provided by the IRSM that will be used during the transfer of the RAM.

(2) Movement may not begin unless transfer form Section Initial Transfer / Inspection Survey is considered satisfactory by the initiator. In order to be considered satisfactory the initiator of the transfer must ensure that one of the following conditions apply:

(a) Wipe test indicating that the device or package has less than 1,000 dpm Beta/Gamma or 22 dpm Alpha of removable contamination. Wipe tests must be less than six months old. Mark "Leak Test" and attach wipe test results to the transfer form. Within the "Survey Instrument" block note "wipe test attached" and write in sample ID number or sequence of sample IDs for multiple samples or multiple devices.

(b) Measurement of surface contamination with an appropriate survey meter is an acceptable means to indicate that the device or package is not contaminated, if it indicates no contamination. Mark "Contamination Survey" on the transfer form and annotate the Survey Meter model, serial, calibration date etc. in "Survey Instrument" block.

(c) Illumination testing is authorized by the Army license under certain circumstances and may be an acceptable means of determining if the transfer will be considered satisfactory. Check appropriate technical manuals for illumination testing procedures. When illumination test is used note in the "Survey Instrument" block "illumination test."

(d) If the commodity or device contains a quantity of radioactive material not considered as radioactive per reference (f) definitions a visual inspection may be conducted in order to determine if the transfer is

satisfactory. Check "satisfactory" on the form if the device is intact and appears undamaged. This provision will predominantly apply only to commodities that contain Thorium Fluoride Coated lenses.

(3) Each person the RAM is transferred to along the transport route shall sign for custody, documenting their name, the date, and identifying information for the transport vehicle (if any) using the transfer form.

(4) If at any time there appears to be damage to the device or the package containing RAM, the movement shall cease and the URSM, RSO or IRSM contacted prior to any further movement. The RSO or RSM shall evaluate whether, and to what extent, there are any leaking devices or contamination associated with the transferred devices. Continuation of the transfer may not continue until released by the URSM, RSO or IRSM.

(5) When movement arrives at the final destination, transfer form section "Final Recipient Inspection/Survey" shall be completed by the final receiver in the presence of the current transferor.

(a) Visual inspection of the package or device is an acceptable means of determining if the "Final Recipient Inspection" is acceptable. Ensure that the package is still intact, undamaged and not wet.

(b) If the condition of the transfer is satisfactory, the transfer is complete.

(c) If the condition of the transfer is unsatisfactory, the receiver shall immediately contact the URSM, RSO or IRSM. The final transferor shall remain present, with the package or device, to allow for any remedial action to be taken as determined by the URSM, RSO or IRSM (e.g. contamination control).

(6) The final receiver shall send a copy of the completed transfer form to the initiator of the transfer. The initiator shall forward a copy of each completed transfer to the IRSM upon completion.

(7) Transfer forms shall be retained by the initiator and final receiver for at least three years. The IRSM shall retain copies of all transfer forms indefinitely.

3. Receipt of RAM. This section applies to receipt of non Type-A packages. Type "A" quantities are defined in reference (e). Procurement of Type "A" quantities in accordance with Chapter 8 will ensure that Type "A" packages will not arrive unexpectedly.

a. Prior to opening a package that contains RAM determine the condition of the package, minimally by visual inspection. If the package appears intact and undamaged it is safe to open the package. Evidence of satisfactory wipe test results, no older than six months, is also sufficient to indicate that the package is safe to open. If there is any indication of damage to the package, or if the package is wet, additional wipe tests or surveys may be needed to determine if there is any contamination present. Contact the respective Command RSO/RSM prior to opening damaged packages.

b. In the event that a package received is identified as containing RAM, after being opened, the package will be placed in an isolated, temporary storage area, and the following action shall be taken:

(1) The CRSO/URSM or IRSM will be notified as soon as possible.

(2) No packing material or equipment packaged with the RAM shall be removed or handled prior to release by the CRSO/URSM.

(3) The CRSO/URSM will examine the package and may survey the contents to determine if the package or contents are contaminated.

(4) The CRSO/URSM will make a determination as to whether the package can be released for transfer or maintenance. Contamination limits are as follows: No greater than 1000 DPM for Beta/Gamma and no greater than 22 DPM for Alpha contamination.

(5) If levels exceed these limits the CRSO/URSM will contact the IRSM immediately for further guidance.

c. No one shall open packages that contain RAM that are destined for other organizations. Such packages shall be transferred to the appropriate organization in accordance with paragraph 2 of this Chapter.

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Chapter 4

RADIOACTIVE MATERIAL MARKING, POSTING AND STORAGE

1. Storage and Control Requirements

a. Radioactive material shall be stored in controlled areas. Licensed material authorized for possession and use by a NRMP shall be secured to prevent unauthorized removal or access.

b. Radioactive instrument check sources not in use shall be stored in a locked container that can only be accessed by the IRSM, URSM, CRSO, ARSO, or authorized personnel.

c. The RASP storage and use area access shall be limited to individuals authorized by the command.

d. The RASP radioactive material shall not be stored in office spaces, food storage areas, or berthing areas.

e. Each use and storage area, with quantities of radioactive material greater than 10 times the quantities listed in 10 CFR 20, Appendix C, shall be posted with a sign or signs bearing the radiation trefoil symbol and stating "Caution-Radioactive Material" that is easily viewable by anyone entering the area (10 CFR 20.1902(e)).

f. The RASP radioactive material used in an unrestricted area shall be under the constant surveillance and immediate control of the IRSM, URSM, CRSO, ARSO or an authorized individual.

2. Labeling

a. Each container holding quantities of radioactive material greater than listed in 10 CFR 30.71, Schedule B, or 10 CFR 20, Appendix C, shall be marked with a label bearing the radiation trefoil symbol and the words "Caution-Radioactive Material" (10 CFR 20.1904).

b. In addition, the container must be labeled with sufficient information (e.g., the radionuclide(s) present, an estimate of the quantity of radioactivity, the date when the radioactivity was estimated, radiation levels, kinds of materials) to permit individuals handling/using the radioactive material and others working in the vicinity to minimize their exposure to ionizing radiation.

c. Radioactive material containers internally contaminated in excess of the levels in Table 4-1 shall be marked with a label bearing the radiation trefoil symbol and the words "Caution-Radioactive Contamination Inside."

d. Regardless of activity, radioactive instrument check sources or the container in which they are stored shall be marked as radioactive material.

e. Except as otherwise authorized by the NAVSEA 04N, Naval Radiation Safety Committee, or reference (a), the labeling shall use the conventional radiation caution colors and symbol prescribed by 10 CFR 20.1901.

f. Prior to removal or disposal of empty uncontaminated containers to unrestricted areas, all radiation and radioactive contamination related labels shall be removed or defaced to clearly indicate that the container no longer contains radioactive material.

Table 4-1 Acceptable Surface Contamination Levels

Radionuclides	Acceptable Surface Contamination Levels		
	Average	Maximum	Removable
U-NAT, U-235, U-238 and associated decay products	5000 dpm alpha/ 100 cm^2 (2250 pCi/100cm^2)	15,000 dpm alpha/ 100 cm^2 (6750 pCi/100cm^2)	1000 dpm alpha/ 100 cm^2 (450 pCi/100 cm^2)
Transuranics, Ra-226, Ra-228, Th-228, Th-230, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm^2 (45 pCi/100cm^2)	300 dpm/100 cm^2 (135 pCi/100cm^2)	20 dpm/100 cm^2 (9 pCi/100cm^2)
Th-NAT, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126,I-131, I-133	1000 dpm/100 cm^2 (450 pCi/100cm^2)	3000 dpm/100 cm^2 (1350 pCi/100cm^2)	200 dpm/100 cm^2 (90 pCi/100cm^2)
Beta-gamma emitters (Nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above	5000 dpm beta-gamma/ 100 cm^2 (2250 pCi/100cm^2)	15,000 dpm beta-gamma/ 100 cm^2 (6750 pCi/100cm^2)	1000 dpm beta-gamma/100 cm^2 (450 pCi/100cm^2)

3. Radioactive Material Storage and Use Areas. Each use and storage area, with quantities of radioactive material greater than 10 times the quantities listed in reference (e), Part 20, appendix C, shall be posted with a sign or signs bearing the radiation trefoil symbol and stating "Caution-Radioactive Material" easily viewable by anyone entering the area.

4. Radiation Area. Each RASP radiation area shall be conspicuously posted with a sign or signs bearing the radiation trefoil symbol and the words "Caution - Radiation Area."

5. Low Level Radioactive Waste (LLRW)

a. The installation consolidates all Unwanted Radioactive Material (URM) generated on base at the LLRW warehouse (Building 1340 door 13), under the management of the IRSM.

b. At no time shall devices that contain radioactive material be turned in to a Defense Reutilization and Marketing Office (DRMO).

c. The LLRW storage area shall be posted with a sign or signs bearing the radiation trefoil symbol and stating "Caution-Radioactive Material", easily viewable by anyone entering the area.

d. Organizations aboard MCLB Albany that generate URM shall have an area within their controlled area designated for temporary storage of URM. A continuous running inventory must be kept that includes at a minimum the information required by reference (a).

e. It is recommended that temporary URM be transferred to the LLRW when a single container becomes full rather than waiting until multiple containers need to be transferred.

f. A request to the IRSM must be made when an organization is ready to transfer their URM to the LLRW warehouse. A request shall consist of a completed Radioactive Material Custody Transfer Form provided by the IRSM, and the "Demil" code and instructions for the device.

(1) Gloves, contaminated wipe paper, or other URM "trash" may be marked as such and shall indicate the most likely isotope and an activity of 1 micro Curie, unless the actual activity is known. Limiting the bulk of URM trash is very important. This URM trash should be kept to a minimum by placing only materials used for cleaning a spill or handling of "hot" items into URM trash receptacles. Wipe tests that indicate the level of contamination present during clean up should be attached to URM "trash." Trash must be dry.

(2) Contaminated devices must be double bagged and clearly marked as contaminated prior to being placed in URM receptacles.

(3) Prior to delivering an item with a Demil Code of "F" to the LLRW warehouse, the Demil instructions must be completed. The Demil Code "F" instructions, with a note indicating they have been accomplished, must be attached to the request. Contact the IRSM for assistance in getting Demil "F" instructions.

(g) The IRSM shall review each turn-in request and arrange with the generator a time and date for the transfer.

(h) Transfer of the container or device(s) shall be conducted in accordance with chapter 3 of this Order.

(i) The IRSM shall maintain an inventory of all URM that is stored within the LLRW Warehouse consistent with the requirements of Reference (a).

(j) Only NAVSEA RASO has the authority to declare URM as LLRW.

(k) Annually the IRSM shall request disposal of URM in the LLRW warehouse via a formal written request with attached inventory from the CO MCLB Albany to:

Officer in Charge
Naval Sea Systems Command Detachment
Radiological Affairs Support Office (RASO)
NWS P.O. Box 260
Yorktown, Virginia 23691-0260
P.O.C. Environmental Program Manager 757-887-4692

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Chapter 5

SURVEYS, AUDITS, REVIEWS, LOGS, AND RECORDS

1. Surveys

a. In order to protect members of the general public and non-RAD workers, areas where work involves production of ionizing radiation shall be surveyed to evaluate the extent of radiation hazards in accordance with this Chapter.

b. Surveys conducted to comply with Naval Permit or NRC license conditions shall be forwarded to the IRSM as they are completed. Tenant Commands that conduct surveys to comply with Naval Permit or NRC license conditions are exempt from further requirements of this Chapter.

c. The cognizant CRSO/URSM, or designated individual shall conduct a survey of each building, warehouse, or laboratory that is used to store RAM or Machine sources of ionizing radiation at least annually.

(1) A survey will utilize appropriate technology for the suspect exposure or contamination: e.g. ion chamber survey meter for detection of X-rays or wipe tests for potential alpha/beta contamination. In the event that contamination in excess of 1000 dpm per 100 cm^2 (beta / gamma) or 22 dpm per 100 cm^2 (alpha) or if any meter readings exceed 2 mR/hour outside of controlled areas, work in the area shall cease. Notify the IRSM immediately.

(2) Survey documentation shall contain, at a minimum, the following information:

(a) Test instrument used;

(b) Model number of test instrument used (i.e., Survey meter or Wipe Counter);

(c) Serial number;

(d) Calibration date;

(e) Calibration due date;

(f) Source check date and results; and

(g) Operator of instrument or name of person conducting a wipe test.

(3) A description of each test point e.g. "top of desk."

(4) Meter Readings (in mRem/hour) or Wipe test results (in uCi), for each survey point.

(5) Diagrams indicating the location of survey points that are detailed enough to relocate a survey point.

d. Tenant copies of surveys shall be retained for a minimum of 3 years.

e. Surveys shall be forwarded to the IRSM each time they are conducted. The IRSM shall retain surveys indefinitely.

f. The IRSM shall forward Survey results to NAVSEA DET RASO as required.

2. Audits. The IRSM shall conduct a radiation protection audit of the LLRW annually during the month of April, and of the postal x-ray operation every six months, during April and November. The audits will be documented in the Enterprise Safety Applications Management System (ESAMS) and reviewed by the MCLB Albany Commanding Officer. The audit shall verify that:

a. Procedures are being properly maintained and are current.

b. Appropriate radiological surveys are being conducted and reviewed in a timely manner.

c. Required records and reports are properly maintained and issued in a timely manner.

d. Radioactive material transportation, shipping, receipt, transfer, and disposal records are properly maintained.

e. The RASP related training is properly conducted and documented.

f. Deficiencies identified during previous evaluations, inspections, reviews, and audits have been corrected and that corrective actions are effective.

3. RASP Deficiency Report (RDR) Program

a. The purpose of the RDR program is to identify and correct RASP deficiencies and abnormal conditions. The RDRs are also used to document and track the completion of RASP improvements. Self-identification and correction of lower order deficiencies or abnormal conditions are effective methods to identify trends and address program weaknesses before they develop into violations.

b. Installation personnel will utilize the ESAMS program to report, document and track RDRs.

c. The IRSM will review, evaluate and resolve all RDRs and report the results as required.

4. Annual Program Review (APR). The purpose of the APR is to evaluate command compliance with federal regulations, adherence to applicable Navy and Marine Corps directives, NRMP conditions as applicable, and management oversight of the RASP. The IRSM shall conduct the APR, and document it in ESAMS. The APR shall include:

a. A review of operating and emergency procedures to ensure compliance with governing regulations and that they are current. Include a list of the procedures and any identified discrepancies.

b. Identification of any improvements to the RASP.

c. A review of all RASP related training.

d. The results of the annual RDR trend report conducted by the IRSM.

e. A review of all incident and critique reports, associated corrective actions, and the effectiveness of those corrective actions.

f. A review of audit findings, responses, and audit effectiveness.

5. Utilization Logs. Utilization logs shall be used and maintained for the following:

a. Radioactive instrument check sources.

(1) Utilization log records for radioactive sources shall include the following information at a minimum:

(a) The source serial number.

(b) The name(s) of individual(s) using the source.

(c) The use date and time.

(d) The use location.

(e) The date the source is returned to storage (if the source is removed from the normal storage area).

(f) The date the IRSM reviewed the utilization log and his/her signature.

(2) Radioactive material utilization log records shall be maintained for three years after the date of the last entry.

b. Use of all radiation producing machines and devices.

(1) Utilization log records for machine sources of ionizing radiation shall include the following information at a minimum:

(a) The machine manufacturer, make, model, and serial number(s).

(b) The use date and time.

(c) The use location.

(d) The radiation exposure time length.

(e) The maximum and operating voltage (kVp) and current(mA).

(f) The target material if applicable.

(g) The name and signature of the operator.

(h) The date the IRSM reviewed the utilization log and his or her signature.

(2) Machine source utilization log records shall be maintained for three years after the date the record is generated.

Chapter 6

TRAINING

1. Command Management/Leadership

a. Within the first six months of assuming command, the Commander, CO, or OIC shall successfully complete the RASP Leadership Course (S-NKO-0001) available on the NAVSEADET RASO Navy Knowledge Online (NKO) website. Other key leadership personnel, as defined by the command, are encouraged to complete the course.

b. Annually, the Commander, CO, or OIC (shall retake the RASP Leadership Course or alternative training specified by NAVSEADET RASO. Other key leadership personnel defined by the command may also complete the course.

2. Radiation Safety Officers (RSO)

a. Any individual considered for appointment as an RSO shall have successfully completed initial qualification training at Naval Sea Systems Command Detachment, Radiological Affairs Support Office (RASO), Yorktown, Virginia, Course # S-4J-0016/9937, or have equivalent training and experience as defined in reference (a).

b. In addition, if the RSO or ARSO has duties that require them to oversee work involving X-ray machines, the RASO X-ray radiography safety course, S-491-0016, shall also be successfully completed.

c. Periodic refresher training for RSOs and ARSOs shall be in accordance with reference (a).

3. RSMs. Within six months of assuming duties the RSM shall successfully complete the USMC Radiation Safety Management course.

4. Radiation Protection Assistant (RPA). An RPA shall successfully complete the USMC Radiation Safety manager course within 12 months of assuming duties as an RPA. Annual refresher training shall be provided by the cognizant RSO or RSM. Training will be commensurate with their duties.

5. Radiation Workers (Non X-ray Radiography). Each CRSO/RSM shall conduct radiation safety training for Radiation Workers within their own command as follows:

a. Initial training shall be conducted for any individual that is going to be performing work utilizing radioactive materials or machine sources of ionizing radiation. Initial training shall be at least eight hours long and include the topics and exam requirements listed in reference (a).

b. Refresher training for Radiation Workers shall be conducted at least annually and when there is a substantive change in equipment or operating procedures. Radiation Workers refresher training shall include the topics and exam requirements listed in reference (a), and shall be a minimum of four hours in duration.

6. X-ray Radiographers and Assistants

a. Prior to participating in X-ray radiography any organization that employs X-ray radiographers shall ensure that each radiographer has successfully completed one of the RASO approved courses identified in reference (a).

b. Refresher training for persons involved in X-ray radiography shall be conducted by the CRSO at least annually and when there is a substantive change in equipment or operating procedures. Refresher training shall include the topics and exam requirements of reference (a), and shall be a minimum of 6 hours in duration.

7. RADIAC Calibration Workers

a. Personnel that operate RADIAC calibration sources, directly supervise calibration operations, or perform leak tests of calibration sources shall have completed the RADIAC Instrument Maintenance Course per reference (a).

b. The RSO shall ensure that personnel that work in the RADIAC calibration laboratory receive at least eight hours of initial training on those subjects required by reference (a) 2.2.5 REQUIREMENTS: 1. a. and b.

c. The RSO shall ensure that RADIAC Calibration workers receive annual refresher training in accordance with Section 5.b. of this Chapter.

8. Tritium Workers. Tritium Workers shall have training in accordance with internal command procedures and Army License requirements.

9. Emergency Responders. Annually, MCFD and MCPD personnel shall have Radiation Safety training, provided by the CRSO and/or IRSM, which will cover the following topics, at a minimum:

a. Location of all radioactive material (RAM) on base.

b. Areas that include large amounts of RAM and special response considerations.

c. Section 4-6 of Reference (c) and the importance of medical treatment over contamination concerns.

d. Decontamination procedures.

e. Police Officers shall be trained on the "Standard Operating Procedure for Responding to Alarm Activations at the RADIAC Calibration and Repair Laboratory, Building 2700."

10. Incidental Personnel. In order to ensure that personnel visiting areas where RAM or Machine sources are used or stored are aware of safety requirements, and to dispel unwarranted concerns, each visitor or incidental worker shall be briefed per the requirements of reference (a) for Non-Radiation Workers.

Chapter 7

LOCAL PERMITTING

1. General. It is occasionally necessary for work to be conducted on the installation on a temporary basis by companies that have been issued a Nuclear Regulatory Commission (NRC) License, or agreement State (State) license that authorizes the work. This work shall be referred to as "RAD WORK" and the machines or materials as "device(s)" throughout this Chapter. This Chapter outlines the procedures that organizations are to follow to ensure that any RAD WORK is conducted with the cognizance and permission of the IRSM.

a. Before an organization begins any RAD WORK on the installation they shall apply for and have been issued a permit from the IRSM to conduct RAD WORK.

b. The IRSM shall consider each application and shall, upon satisfactory review of the application, issue a local permit to the requesting organization.

c. A CRSO/URSM is not authorized to issue permits for RAD WORK on the installation. If RAD WORK needs to be done within the confines of a tenant command's operational area, a permit will be issued by the IRSM.

d. When a tenant organization contracts for RAD WORK to be conducted, the command must ensure that the contractor (or sub-contractor) is authorized by a license, and that the contractor follows the procedures in this Chapter to receive a local permit for the work.

2. Requesting a Local Permit

a. Applications for a permit from the IRSM shall be in the form of a written request from the organization which will be conducting the work. Submit the following documents with the permit request (as appropriate):

(1) A copy of the NRC or State license (not required for machine sources).

(2) Copies of training certificates for any operators of the device.

(3) Copies of leak test certificates for RAM sources.

(4) Forms 241 indicating the dates the work will be conducted (agreement State licensed organizations). Marine Corps Logistics Base Albany is considered an "Area of exclusive Federal Jurisdiction" by the NRC, so Agreement State licensed companies must submit to the NRC and receive NRC signed copies of form 241 prior to working on the installation.

(5) Operating and emergency procedures.

(6) Written procedures that describe how the device will be secured during use and storage.

b. Depending on the nature of the RAD WORK to be done and devices to be used, the IRSM may require other safety related procedures be submitted prior to issuing a local permit, e.g. use of barrier monitors or survey meters.

3. Administration of Local Permits

a. Permitees authorized to work shall report to Risk Management (RM) office prior to beginning work each day. Contractors that intend to store their device on base may be authorized to conduct work on a daily basis in accordance with paragraph 4 below.

b. When a permit is issued the IRSM shall prepare a Control Log (Log). A RM Safety specialist or an administrative assistant shall annotate the following information in the Log each time a permitee reports to the office:

(1) Date and Time.

(2) Device Operator's Name.

(3) Work Location.

(4) Name of person reviewing the Form 241. Printing name indicates that the individual reviewed the form 241 and that it is complete and covers the time period for the current day.

(5) Operator's phone number.

(6) Time left/initials. Time the operator notified RM that they were removing the device from the base. May be from voice mail, time would be the time the voice mail was left.

4. Storing Radioactive Devices on Base

a. Acceptable means of securing the device on base must be approved by the IRSM prior to a device being stored overnight on the installation. At no time shall a non-operator be allowed access to the device.

b. The initial location that work will begin, the device operators' name, and contact phone number shall be annotated in the log.

c. The device operator shall notify the IRSM either in person or by phone when the work location changes. Voice mail is an acceptable means of communication if the IRSM is unavailable.

d. A device operator shall contact the IRSM prior to allowing a different device operator to take control of the device. A change in operator shall be annotated on the log.

e. Once work with the device on base is no longer needed the contractor shall report to the IRSM, in writing, that all radioactive materials have been removed from the installation.

Chapter 8

PROCUREMENT OF RADIOACTIVE MATERIAL

NOTE: DDAG is exempt from the provisions of this Chapter and may procure RAM in accordance with NRC License No. 37-30062-01.

1. Radioactive Materials Control Procedures. The use and stocking of RAM in items of supply shall be kept to a minimum and consistent with activity needs.

a. Practical non-radioactive substitutes shall be procured and used where feasible. Notwithstanding, it is occasionally necessary for radioactive materials to be procured for use on the installation. This procedure shall be followed for any procurement of RAM whether by purchase, transfer, or other means.

b. Procurement of radioactive material of type A quantities must be coordinated with the IRSM so that arrangements may be made to accept the package when it arrives. Type "A" quantities are defined in Reference (e).

2. Approval for Procurement of RAM. Approval of a CRSO or URSM must be received prior to procurement of RAM. Approval will be requested as follows:

a. Tenant Commands shall request approval for procurement of RAM from their CRSO/URSM.

b. Organizations that belong to the MCLB Albany shall request approval for procurement of RAM from the IRSM.

c. Once approval is granted procurement may commence. Evidence of approval for any procurement of RAM shall be maintained for at least 3 years.

3. Authorizing Procurement of RAM. Prior to authorizing procurement an RSO/RSM must ensure that the requestor is authorized to possess the RAM in the quantities and type requested.

a. All RAM utilized under the Army License, reference (d), may be procured by organizations authorized to use, store or maintain tritium fire control devices, in accordance with reference (d).

b. Procurement of RAM in quantities or concentrations below the exempt concentrations specified in Reference (e) Part 30.7 Schedule A and exempt quantities specified in Schedule B may be authorized if the requestor is involved in one of the "Authorized RASP Activities," listed in Appendix A.

c. Procurement of RAM for activity controlled by Naval Permit must adhere to the provisions of the permit. Thorough review of permit conditions by the RSO should indicate whether new or replacement RAM procurement is authorized.

d. Procurement of Radium shall not be authorized by a command RSO. The IRSM is the only person authorized to allow procurement of Radium.

e. In the event that a command RSO/RSM is unsure whether or not a particular procurement should be authorized they should contact the IRSM for advice.

Chapter 9

EMERGENCY PROCEDURES AND DRILLS

1. General Requirements

a. A radiological incident can occur where radioactive materials or radiation-producing equipment are used, stored or transported. The magnitude of the incident and the severity of consequences will determine the level of response.

b. Conditions, situations and occurrences considered to be radiological incidents are listed in Reference (a). All entities aboard MCLB Albany that possess or handle radioactive material or radiation-producing equipment shall develop emergency procedures commensurate with the radiation hazards of their operations.

2. Emergency Plans, Notifications and Annual Drills

a. Procedures shall identify conditions constituting an emergency, list by priority individual and departments to be notified (primary and alternates) during duty hours and off-duty hours, radiological exposure control, and actions to be taken to include responsibility for notifications.

b. The IRSM, CRSO, or URSM shall prepare for the possibility of an emergency by developing, testing, and maintaining an emergency response plan commensurate with the radiation hazards at the organization. All commands and units that possess radioactive material or radiation-producing equipment will coordinate their EAPs with the other organizations aboard MCLB Albany.

c. Emergency action plans shall be reviewed and updated at least annually.

d. Annual Emergency Drills

(1) Commands that have the potential for one or more of the hazardous conditions listed in reference (a), Section 2.23.1.2, shall conduct at least one emergency drill per year to ensure that RASP workers, radiation safety, emergency responders and other personnel are familiar with their roles and responsibilities during emergency situations. All drills shall be coordinated through the IRSM.

(2) The drill scenario shall be based on one or more of the emergency situations outlined in the command emergency procedures and shall include participation by fire department and other emergency response personnel as appropriate.

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APPENDIX A

AUTHORIZED RASP ACTIVITIES

RASP Activity	Organization	Location(s)
RADIAC Calibration and Repair	Production Plant Albany (PPA)	Building 2700 West Mathews Blvd.
Wipe Test Analysis	PPA	Building 2700 West Mathews Blvd.
Depot level Tritium Fire Control device repair	PPA	Building 2700 West Mathews Blvd.
X-ray Radiography (Shielded Facility)	PPA	Building 2261, Maintenance Center Compound
Warehousing and Storage of Radioactive Materials	Fleet Support Division	Warehouse 1340 Door 9
	DLA Distribution Albany Georgia (DDAG)	Warehouse 1260 Door 17
Low Level Radioactive Waste (LLRW)	MCLB Albany Risk Management	Warehouse 1340 Door 13
Shipping of Radioactive Materials	DDC	Warehouse 1260 Door 17
Survey meter Radioactive check sources. *(Use and storage of small radioactive check sources for checking RADIAC instruments is authorized.)*	Any	Any
Temporary use of Machine sources of ionizing radiation or Radioactive Materials	Contractors	Authorized on a case by case basis using a "Local Permit." See Chapter 7.