***BY ORDER OF THE COMMANDER***
***502D AIR BASE WING 9 (AETC)***

***JOINT BASE SAN ANTONIO***
***INSTRUCTION 40-101***

***25 JULY 2025***

***Medical Command***

***JOINT INSTALLATION RADIATION SAFETY PROGRAM***

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Manual (AFMAN) 40-201, *Radioactive Materials Management*, used in conjunction with Air Force Policy Directive (AFPD) 48-1, *Aerospace & Operational Medicine Enterprise*; DAFMAN 48-148, *Ionizing Radiation Protection*; and AFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*. This instruction applies to all 502d Air Base Wing (ABW), Joint Base San Antonio (JBSA), and associated tenant units to include the US Air Force Reserve, Air National Guard (ANG) units, and Civil Air Patrol that possess, use, or handle sources of radioactive materials (RAM), and/or ionizing radiation producing devices (RPD) within the confines of JBSA, unless otherwise stated. This publication also applies to all JBSA in accordance with (IAW) Department of Defense (DoD) Supplemental Guidance for Implementing and Operating a Joint Base Memorandum, Paragraphs **2.1**, **4.1.3**, and the 2020 JBSA Supplemental Medical Memorandum of Agreement (MOA) along with the identified Code of Federal Regulations (CFR). Ensure that all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 33-322, *Records Management and Information Governance Program*, and are disposed of in accordance with the Air Force Records Disposition Schedule which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) listed above using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR listed above for coordination prior to certification and approval.

*SUMMARY OF CHANGES*

This publication has been revised. This rewrite of JBSANANTONIOI 40-101 includes the new role of Operating Location Radiation Safety Officer, updated responsibilities of Supervisors, 502 Logistics Readiness Squadron, Defense Logistics Agency, as well as the delineation between pregnant civilians and military personnel.

**1. Overview.**

1.1. **Purpose.** This instruction provides uniform policy, instruction, and guidance for the management of all radiation-producing sources at JBSA. It sets forth how Joint Base personnel and units manage all programs associated with the safe usage of RAM and ionizing RPDs. This instruction also prescribes how tenant units and non-JBSA entities obtain approval to use radiation-producing sources on JBSA.

1.2. **Safety Statement.** All exposures to radiation will be as low as reasonably achievable (ALARA). Existing technology and cost involvement in radiological operations on JBSA must use all reasonable means available (that is, time, distance, and shielding) to minimize radiation exposure to personnel from all ionizing radiation sources. Each agency, organization, contractor, and individual who uses or handles radiation-producing materials or equipment must make a concerted effort to ensure operations and maintenance procedures result in safe workplaces and minimized exposure.

**2. Responsibilities.**

2.1. **Commander, 502d Air Base Wing, JBSA (502 ABW/CC) will:**

2.1.1. Have overall responsibility for the Installation Radiation Safety program.

2.1.2. Designate, in writing, a Bioenvironmental Engineer from the 59th Medical Wing, or other individual with equivalent radiation qualifications pursuant to AFMAN 48-148, to serve as the JBSA Installation Radiation Safety Officer (IRSO).

2.1.2.1. Appoint an Operating Location Radiation Safety Officer (OLRSO) to each JBSA operating location (i.e., JBSA-Lackland, JBSA-Randolph, JBSA-Fort Sam Houston (FSH) including Camp Bullis).

2.1.2.2. Per the 2020 JBSA Supplemental Medical MOA, 502 ABW/SEG will be responsible for Radiation Safety functions, to include Army regulations and requirements, at JBSA-FSH. Brooke Army Medical Center (BAMC) Preventive Medicine (PM), MCHE-ZHP-H (Health Physics Office) will be responsible for the Radiation Safety program at BAMC and applicable associated facilities listed in the 2020 JBSA Supplemental Medical MOA, under Defense Health Agency (DHA) regulations and requirements.

2.1.3. Enforce AFMAN 40-201 and AFMAN 48-148, as applicable, for all activities on JBSA, including non-Air Force/non-Army entities (e.g., other DoD organizations, Department of Energy (DOE) organizations, Department of Labor (DOL) organizations and all contractors).

2.2. **502d Air Base Wing Safety, JBSA (502 ABW/SEG), will:**

2.2.1. Ensure JBSA-FSH is in compliance with Nuclear Regulatory Commission (NRC) regulations and all applicable instructions and regulations, as outlined in this Joint Base Instruction.

2.2.2. Properly route documentation pertaining to radiological material disposal, procurement, or transfer when the situation involves Army materials or personnel with corresponding agencies, NRC, and IRSO.

2.2.3. Ensure reporting is routed through the corresponding chain of command, such as applicable Army Command (ACOM), Army Service Component Command (ASCC), Direct Reporting Unit Radiation Safety Staff Officer, or the affected NRC license RSO IAW Department of the Army (DA) Pamphlet (PAM) 385-40, *Army Accident Investigations and Reporting* and Army Regulation (AR) 385-10, *The Army Safety Program*.

2.3. **Commander, 59 Medical Wing (59 MDW/CC), will:**

2.3.1. Ensure all pregnant military personnel and declared-pregnant civilian personnel working in potential occupational radiation exposure environments during their pregnancy are referred to the OLRSO or Medical RSO. **Note:** Pregnant individuals will be enrolled in the dosimetry program on a monthly monitoring frequency.

2.3.2. Oversee special examinations and clinical tests as part of an overexposure investigation.

2.3.3. Appoint a Medical RSO for the 59 Medical Wing. **Note:** Though not required, the appointment of an Alternate Medical RSO is encouraged.

2.4. **Commander, Brooke Army Medical Center (BAMC/CC), will:**

2.4.1. Ensure all declared pregnant military personnel and declared-pregnant civilian personnel working in potential occupational radiation exposure environments are referred to the OLRSO or Medical RSO and educated on radiation effects to embryos/fetuses. **Note:** Declared pregnant individuals will be enrolled in the dosimetry program on a monthly monitoring frequency.

2.4.2. Oversees special examinations and clinical tests as part of an overexposure investigation.

2.4.3. Appoint a Medical RSO for BAMC. Note: Though not required, the appointment of an Alternate Medical RSO is encouraged.

2.5. **Commander, 502d Contracting Squadron (502 CONS/CC), will:**

2.5.1. Require contractors to follow all applicable DoD instructions, directives, manuals, technical orders, and federal and state radiation safety regulations when conducting operations on JBSA.

2.5.2. Ensure contractors desiring to use RAM/RPDs on JBSA provide written requests to the appropriate OLRSO no less than 30 calendar days prior to the RAM/RPDs entering the installation. **Note:** Request procedure details can be provided by the applicable OLRSO.

2.5.3. Ensure all contracts involving the use of RAM/RPDs contain a clause authorizing the IRSO and OLRSO to suspend unsafe operations and incorporate a detailed Performance

Work Statement or Statement of Work. **Note:** Standard verbiage for the suspension clause can be provided by the applicable OLRSO.

2.5.4. Coordinate with the OLRSO, Medical RSO, or IRSO to ensure all solicitations for goods or services that may require the use of RAM contain appropriate award selection criteria.

2.5.5. Ensure Contracting Officers (Installation and Army Corps of Engineers, etc.) notify the OLRSO of all pre-construction meetings.

2.6. **Commander, 502d Logistics Readiness Squadron (502 LRS/CC), will:**

2.6.1. Ship, receive, properly log, and place RAM packages into temporary storage pending transport to the customer, or at the request of the OLRSO.

2.6.1.1. Ensure all RAM be turned in to the 502 LRS Packing and Crating section for temporary storage for the purpose of shipment.

2.6.1.2. Ensure RAM commodities are stored in a designated storage area that is approved by the warehouse manager and OLRSO. **Note:** Unit Radiation Safety Officer (URSO) and/or owner of RAM, in coordination with the OLRSO, should make every attempt to reduce the length of RAM storage time. Under no circumstances, is the storage of RAM to be allowed for convenience purposes.

2.6.2. Ensure personnel performing hazardous material (HAZMAT) transportation and packaging/shipping operations comply with training requirements.

2.6.3. Establish RAM specific HAZMAT transportation procedures, in coordination with the OLRSO, for the safe movement onto, off of, and around the installation. Properly package and label RAM to meet the requirements of 49 CFR Part 173, *Shippers -General Requirements for Shipments and Packaging*.

2.6.4. Prepare appropriate forms for shipping of radioactive material and report all RAM packaging, shipping, or receiving discrepancies to the OLRSO.

2.6.5. Arrange transport of radioactive items for turn-in to appropriate disposition service.

2.6.6. Ensure personnel working with shipping, receiving, or storing of RAM have completed all training requirements as per 49 CFR and ALARA principles prior to conducting any work related to RAM.

2.6.7. Ensure RAM packaged by other organizations meet requirements in 49 CFR Part 173, *Shippers - General Requirements for Shipments and Packaging*.

2.6.8. Contact the OLRSO to evaluate all RAM packages prior to shipment or upon receipt.

2.6.9. Immediately notify the package addressee upon receipt so that the package can be picked up before the end of the duty day. **Note:** RAM packages will not be stored overnight in an unsecured location.

2.7. **Unit Commanders, will:**

2.7.1. Ensure radiation safety procedures are followed.

2.7.2. Ensure unit personnel and contractors who receive, possess, distribute, use, transfer, or dispose of RAM/RPDs have appropriate licensure and/or permit, as required.

2.7.3. Ensure personnel who use RAM/RPDs meet training requirements IAW AFMAN 48-148 prior to conducting any RAM/RPDs work.

2.7.4. Appoint a Permit Radiation Safety Officer (PRSO), in writing, when the organization possesses permit-requiring RAM.

2.7.5. Appoint a URSO, in writing, when the organization possesses RAM/RPDs. Units possessing only exempt radioactive materials do not require URSO appointment.

2.8. **Installation Radiation Safety Officer (IRSO), will:**

2.8.1. **Provide technical assistance to the installation commander on the radiological health aspects of the use of RAM/RPDs and radioactive waste.**

2.8.2. Provide technical information and aid to Public Affairs on incidents involving RAM/RPDs.

2.8.3. With 502 ABW/CC concurrence, contact Air Force Radioisotope Committee (RIC) applicable ACOM, ASCC, and/or Direct Reporting Unit Radiation Safety Staff Officer whenever an issue arises regarding the loss, illegal use, violations, and/or overexposures to radiation.

2.8.4. Annually briefs 502 ABW/CC and the Environmental, Safety, and Occupational Health Council (ESOH-C) on the status of the radiation safety program on JBSA.

2.8.4.1. Create a consolidated brief with inputs and data from each OLRSO.

2.8.5. Serve as approval authority for the utilization of all RAM/RPDs, including those from non-USAF organizations and contractors.

2.8.6. Act as an OLRSO as needed.

2.9. **Operating Location Radiation Safety Office (OLRSO), will:**

2.9.1. Meet the same training requirements required to serve as an IRSO IAW AFMAN 48-148.

2.9.2. Notify the IRSO of any issues involving RAM/RPDs that could negatively affect the health and safety of personnel.

2.9.3. Act as the main point of contact for and provides technical advice on the radiological health aspects of the use of RAM/RPDs and radioactive waste.

2.9.4. Have the authority to suspend operations which may be determined unsafe with regards to radiation safety regulations and/or requirements.

2.9.5. Perform announced and unannounced radiation protection audits to ensure radioactive sources and materials are being stored and used properly in compliance with applicable permits.

2.9.6. Review and approve/disapprove all requests for the use of RAM/RPDs, to include those by contractors, within designated JBSA operating location.

2.9.7. Perform radiation swipe and surveys for the receipt, shipment, transfer, and use of RAM/RPDs.

2.9.8. Ensure ALARA principles are fully understood and practiced throughout the operating location, thereby minimizing employee exposure to ionizing radiation.

2.9.9. Provide initial ALARA training to URSOs and review URSO training plans, as outlined in AFMAN 48-148.

2.9.10. Investigate the loss of RAM/RPDs.

2.9.11. Investigate the spill of radioactive waste.

2.9.12. Investigate suspected and known overexposures to radiation of all DoD personnel, contractors, and members of the general public.

2.9.13. Notify the appropriate contracting officer or representative if a contractor violates JBSA policies with regards to the use of RAM/RPDs.

2.9.14. Support 502 LRS with training on storage, shipping, and receiving procedures for RAM IAW 49 CFR.

2.9.15. Prepare an annual program review, submit to the IRSO and present to the ESOH-C.

2.9.16. Be responsible for the requirements under AFMAN 48-148, *Ionizing Radiation Protection*, AFMAN 40-201, *Radioactive Materials Management*, and DAFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*, at their operating location.

2.9.17. Notify the IRSO of activities affecting RAM permits (i.e., new applications, permit amendments, renewals, and terminations).

2.9.18. Serve as the approval authority for the use of RAM during installation level military readiness training or exercises which may result in exposures to personnel or the general public.

2.9.19. Maintain adequate radiation equipment in inventory with identification, detection, and measurement capabilities.

2.9.20. Ensure all RAM survey equipment is serviced and calibrated IAW manufacturer's specifications.

2.9.21. Maintain and semiannually update RAM inventories in the Air Force Radioactive Materials Management Information System (RAMMIS).

2.10. **Permit Radiation Safety Officer (PRSO), will:**

2.10.1. Ensure permit requirements are followed at all times.

2.10.2. Contact the OLRSO if any questions or problems arise concerning the permitted radioactive material.

2.10.3. Maintain all records concerning the radioactive material permit available for inspection.

2.10.4. Brief the owning Permittee and the OLRSO annually on the permit radiation safety program.

2.10.5. Ensure annual training is conducted and documented for all authorized users. **Note:** training of non-radiation workers who may work in the area will also be conducted and documented.

2.10.6. Inform the OLRSO prior to shipping, receiving, or moving RAM storage location.

2.10.7. Ensure all RIC permitted RAM possessed, used, or stored by the unit are correctly listed in a current and accurate inventory in RAMMIS. **Note**: For information pertaining to RAMMIS, contact the OLRSO.

2.10.8. Notify the OLRSO of activities affecting RAM permits (i.e., new applications, permit amendments, renewals, and terminations).

2.11. **Unit Radiation Safety Officer (URSO), will:**

2.11.1. Act as the central point of contact for each organization using RAM/RPDs.

2.11.2. Immediately inform the OLRSO of the need for new RAM/RPDs prior to acquisition.

2.11.3. Immediately notify the OLRSO and 502d ABW Safety of any incident involving a suspected or known overexposure to radiation.

2.11.4. Ensure radiation monitoring devices are used by personnel, when required.

2.11.5. Maintain an inventory and accountability for all unit RAM/RPDs at all times and provide the inventory to the OLRSO when requested.

2.11.6. Comply and maintain section specific operating instructions for using RAM/RPDs.

2.11.7. Ensure work procedures are in compliance with ALARA principles.

2.11.8. Notify the PRSO of activities affecting RAM permits (i.e., new applications, permit amendments, renewals, and terminations).

2.12. **Supervisors, will:**

2.12.1. Enforce the rules and regulations for RAM/RPDs.

2.12.2. Train and document compliance with ALARA principles for ionizing radiation as applicable to their section.

2.12.3. Ensure all necessary or required personal protective equipment (PPE) is available and used by personnel working with radiation sources and/or associated hazards.

2.12.4. Assume responsibility for the safety of workers in all radiation environments, including preoperative checks of safety equipment.

2.12.5. Train new employees prior to assignment to duties involving radiation. **Note:** Training will focus on the principles of radiation safety and include proper wear and storage of radiation dosimeters, when applicable.

2.12.6. Immediately notify Public Health of pregnant military personnel or declared-pregnant civilian personnel in potential occupational radiation exposure environments.

2.12.7. Ensure potential and known overexposures are reported to the OLRSO.

2.12.7.1. Personnel involved in potential or known overexposures will be taken to the emergency department.

2.12.8. Maintain awareness regarding equipment failure or malfunction that may result in excessive radiation exposure.

2.12.9. Maintain awareness regarding improper safety procedures by personnel that may result in excessive radiation exposure.

2.12.10. Order, maintain, operate, and ensure proper calibration of radiation-measuring equipment necessary to ensure compliance with standards.

2.12.11. Document initial and annual worker training regarding hazards associated with radiation on AF Form 55, *Employee Safety and Health Record*, found on the Air Force Electronic Publishing site, or another AF or DoD equivalent. **Note:** This document will include training hazards and duties on the job safety training outlines (JSTO).

2.13. **RAM/RPD Users, will:**

2.13.1. Follow all safety precautions to ensure exposures to radiation meet ALARA principles.

2.13.2. Notify the URSO and PRSO of any incident involving a potential or known exposure or RAM/RPDs damage/loss.

2.13.3. Complete required training and ensure all training is documented on an AF Form 55 or equivalent.

2.13.4. Properly store and wear personnel monitoring devices and protective equipment, as required.

2.13.5. Notify the unit supervisor and the URSO or OLRSO of any changes to off-duty employment status that could involve the potential exposure to radiation.

2.13.6. Upon confirmation of pregnancy, military members notify unit supervisor as soon as possible. Civilian personnel may voluntarily notify unit supervisor.

2.14. **San Antonio Disposition Services, Defense Logistics Agency (DLA), will:**

2.14.1. Not receive any property containing RAM, IAW DLAR (JP) 4145.08, NAVSUPINST 4000.34C, AFJI 23-504, MCO P4400.105E, *Radioactive Commodities in the Department of Defense Supply System*.

2.14.2. Contact the OLRSO immediately of any RAM found not properly procured or identified. Ensure this RAM is stored in an approved location and prevent unnecessary or unintended personnel access or unauthorized removal of items from radioactive storage area.

**3. Radioactive Material Usage Requirements.**

3.1. **RAM.** Usage can be split into three categories: exempt, generally licensed, and permitted. Specific management requirements are driven by the category.

3.1.1. Exempt RAM is defined in 10 CFR Part 30, *Rules for General Applicability to Domestic Licensing of Byproduct Material*, and is addressed in AFMAN 40-201. There is no requirement for licensure of these items, but any organization possessing exempt RAM

must maintain an inventory of all items, verify the inventory semiannually, provide a copy of the inventory to the OLRSO, and notify the OLRSO when items are received, transferred, or disposed of. Appointment of a URSO is optional for units with only exempt RAM.

3.1.2. GLDs are defined in 10 CFR Part 31, *General Domestic Licenses for Byproduct Material*, and is addressed AFMAN 40-201. Items in this category do not require a broad scope AF license; instead, a general license is issued upon receipt of the device. The license is typically provided by the device manufacturer, or by the prior owner in the case of device transfer. If a device is labeled as generally licensed, but a license document is not available, it can be obtained by contacting the manufacturer or the OLRSO. The GLD Sealed Source and Device Registry (SSDR) will outline leak test and surveillance requirements for the item. In addition to testing requirements, the owning organization must assign a URSO, maintain an inventory of all items, verify the inventory semiannually, provide a copy of the inventory to the OLRSO, and notify the OLRSO when items are received, transferred or disposed of.

3.1.3. Permitted RAM includes all materials not covered under the other two categories (i.e., Exempt RAM and GLDs). All users of permitted RAM must possess a Radioactive Material Permit issued by the RIC or an Army Radiation Authorization (ARA); refer to DA PAM 385–24, *The Army Radiation Safety Program.* Permits issued by the RIC allow the possession of specified quantities of RAM under the authority of the Air Force Master Materials License. Control of these items is closely regulated and all permit requirements must be followed by the owning organization. Coordination through the OLRSO is mandatory prior to obtaining any item requiring a RAM Permit.

3.2. **Requirements for a Permit issued under the United States Air Force (USAF) Master Materials License.**

3.2.1. Refer to AFMAN 40-201 for requirements regarding the USAF Master Materials License.

3.2.2. Units requiring use of RAM may contact the OLRSO for assistance in determining the need for a RAM permit.

## 4. Radioactive Material Handling, Storage, and Transportation Requirements.

4.1. **Every JBSA unit that receives or ships RAM must have a specific location set aside for storage purposes; this location will be approved by the OLRSO and should be a RAM storage vault or locked enclosure that is separate from public areas and personnel not familiar with RAM.** Proper storage techniques and labeling requirements are outlined in 10 CFR Part 19, *Notices, Instructions and Reports to Workers: Inspection and Investigations,* 10 CFR Part 20, *Standards for Protection Against Radiatio*n, and CFR Part 21, *Reporting of Defects and Noncompliance.*

4.2. **Only personnel authorized by the OLRSO will open or package containers with RAM.**

4.3. **When RAM is received at, or shipped from JBSA, the receiving or shipping URSO and/or owner of RAM must contact the OLRSO. Note:** The daily shipment and receipt of RAM by nuclear medicine is not included in this requirement.

4.4. **All RAM must be monitored upon receipt and prior to shipment.** For JBSA and tenant agencies, the OLRSO will arrange for this monitoring. If the receiving or shipping agency is a contractor, the contractor must perform all labeling, packaging, and monitoring requirements outlined in 10 CFR and 49 CFR.

4.5. **Sealed sources must have the most recent leak test results accompanying the package, unless exempted.** If the leak test is not required, removable contamination swipe results IAW 49 CFR Part 173, *Shippers—General Requirements for Shipments and Packaging*, must accompany the package. If a leak test is not available, the OLRSO or representative will perform the leak test before shipment or prior to distribution to the URSO and/or owner of RAM. Contractors must perform their own leak tests.

4.6. **Once a received package has been monitored and cleared by the OLRSO, the URSO and/or owner of RAM will be contacted for transport from the receiving location to the unit storage location.** Packages will remain in the receiving location until claimed by the URSO and/or owner of RAM.

4.7. **When RAM is to be transported from JBSA, it will be prepared for shipment and packaging per all applicable NRC and Department of Transportation (DOT) regulations.**

4.8. **Radioactive items will not be stored with explosives, flammables, food products, or other incompatible commodities.** Items with radioactive gas or radium will be stored in ventilated structures. Storage areas and containers will be marked IAW 10 CFR Part 835 *Occupational Radiation Protection*, and cannot be located near administrative areas. An area designated for RAM storage can only be returned to normal usage with written approval of the OLRSO.

4.9. **DoD RAM commodities can only be stored at the storage area in the 502 LRS warehouse for a short duration while waiting for final disposition.** Every attempt should be made by the URSO in coordination with the OLRSO to reduce the length of RAM storage time.

4.10. **All vehicles used to transport RAM while on JBSA will be properly placarded and meet all requirements of 10 CFR Part 71, *Packaging and Transportation of Radioactive Material*.**

**5. Radioactive Material Disposition.**

5.1. **The PRSO and/or the URSO, in coordination with the OLRSO, is responsible for proper disposal of all RAM assigned.**

5.2. **Disposition of RAM may only be carried out by transfer to another licensed agency or to a licensed disposal contractor.**

5.3. **To transfer any RAM off of JBSA, the PRSO and/or the URSO must give written notification to the OLRSO of the final planned disposition.** Notification must include the radioisotope, activity, quantity and name of individual receiving the RAM. For permitted items, the OLRSO will need a copy of the current license for both the gaining and losing units. The OLRSO is available to assist with RAM transfer and coordinate proper disposal procedures.

5.4. **All disposal actions will comply with the procedures outlined in AFMAN 40-201, 10 CFR Part 61, *Licensing Requirements for Land Disposal of Radioactive Waste*, and accepted health physics practices.**

5.5. **For AF RAM waste, the OLRSO will arrange for disposal through the Air Force Radioactive Recycling and Disposal (AFRRAD) office (Wright-Patterson AFB, OH).** Disposal will occur as soon as practical after the item is declared a waste.

5.6. **For AF recyclable RAM, the URSO and/or owner of RAM, in coordination with the OLRSO, will arrange with AFRRAD.** Recycling will occur as soon as practical after the item is declared unneeded and determined to be recyclable.

5.7. **The US Army Joint Munitions Command is responsible for disposal of Army radioactive waste.** Waste generators will coordinate with and obtain the approval of the Chief, Army Low- Level Radioactive Waste Disposal Division, US Army Joint Munitions Command (ATTN: AMSJM–SF, Rock Island Arsenal, Rock Island, IL) for off-site storage, packaging, shipment, treatment, and final disposition of unwanted low-level RAM. Managers of special projects that generate unusually large amounts of radioactive waste (that is, US Army Corps of Engineers environmental restoration projects) may arrange for radioactive waste disposal as part of the project. However, project managers will coordinate DoD radioactive waste disposal actions with the Chief, Army Low-Level Radioactive Waste Disposal Division (refer to DA PAM 385–24 for more guidance). Disposal of Army RAM commodities must also be coordinated and approved by the OLRSO.

5.8. **Land burial of RAM is not permitted on JBSA.**

5.9. **Release of RAM to the atmosphere or to the sanitary sewer system is not allowed on JBSA.**

**6. Contractor Operations Involving RAM/RPDs.**

6.1. **All contractor usage of RAM/RPDs on JBSA must be approved, in writing, by the OLRSO.** To obtain approval, contractors must submit a request, in writing, to the OLRSO at least 30 days prior to the required use date. Requests must include:

6.1.1. A brief description of the proposed activities.

6.1.2. If applicable, a copy of a current NRC or Agreement State license with current NRC Form 241, *Report of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, Or Offshore Waters*, specifying use locations. The license must either specifically list JBSA or grant approval for work at temporary job sites anywhere in the United States where the NRC or Agreement State has jurisdiction.

6.1.3. If applicable, current leak tests required by a NRC license or general license.

6.1.4. The name, local address, and telephone number for the responsible local representative and the name, address, and telephone number of the RSO.

6.1.5. A copy of the all operator's qualifications and radiation safety training.

6.1.6. A copy of the contract describing work to be done at the installation and the inclusive dates of the work.

6.1.7. An acknowledgment statement that the OLRSO can make periodic checks to ensure that contractor personnel follow radiation safety practices to prevent exposures to all personnel and avoid contamination of government property—this statement must also include that the OLRSO has the authority to suspend unsafe operations.

6.2. **Contractor RAM/RPDs usage approvals will be valid for no longer than 6 months.** A complete package with updated information must be submitted for renewal.

6.3. **Contractors using RAM on JBSA will contact pertinent OLRSO prior to bringing materials onto, and upon removing materials from the operating location.**

6.4. **Contractor RAM will not be stored on JBSA overnight.**

6.5. **If RAM/RPDs is improperly or illegally transported onto JBSA, such items will be impounded and appropriate agencies notified.**

6.6. **When contractors are hired to conduct industrial radiography, coordination of operations with the OLRSO is the responsibility of the unit requesting the service.**

**7. Industrial Radiography.**

7.1. **JBSA Non-Destructive Inspection (NDI) is authorized to perform fixed and temporary industrial radiographic operations on JBSA with timely prior coordination with the OLRSO.**

7.2. **Radiographic devices must be properly licensed by the NRC or State of Texas.** All radiographic operations must meet the requirements outlined in 10 CFR Part 34, *Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations* and TO 33B-1-1, *Nondestructive Inspection Methods, Basic Theory*.

7.3. **The licensed radiographer and at least one other individual must be present during radiographic operations.** Maintain all required documentation on the location of operation at all times.

7.4. **At least two calibrated radiation survey meters must be used for radiographic operations.**

7.5. **Radiation restricted areas, as determined by the OLRSO, must be properly posted with proper radiation hazard warning signs.** Radiation hazard warning signs are described in 10 CFR Part 19, *Notices, Instructions and Reports to Workers: Inspection and Investigation*. **Note:** A restricted area is an area where radiation levels exceed 2.0 milliroentgens per hour (mR/hr). The signs must be placed at the 2.0 mR/hr boundary in sufficient numbers to adequately provide warning to personnel approaching from any direction.

7.6. **Every temporary field or job-site operation should have enough radiographic personnel to adequately monitor restricted areas for possible intrusion by unauthorized personnel.**

7.7. **Restraining barriers may be used in conjunction with appropriate radiation hazard warning signs to preclude access into the restricted area.**

7.8. **For night operations, radiation hazard areas must be well illuminated.** Flashing red lights must identify the restricted area.

7.9. **The OLRSO will periodically monitor industrial radiography operations to ensure compliance with this instruction and 10 CFR Part 34,** ***Licenses for Industrial Radiography and Radiation Safety Requirements for Industrial Radiographic Operations*****.**

7.10. **In the event that violation of the restricted area by an unauthorized individual occurs, the radiographer will ensure the following:**

7.10.1. Immediately secure the radiographic operation (put source into storage container, shut down machine, and so forth).

7.10.2. Escort the individual out of restricted area.

7.10.3. Obtain the name and organization of the individual and the supervisor's phone number.

7.10.4. Record pertinent information (that is, time, date, length of time individual was in the area, approximate maximum exposure level the individual was subjected to, and so forth).

7.10.5. Report the incident to the OLRSO and 502 ABW Safety immediately.

**8. Cessation of Operations and Terminating Permits.** Coordinate cessation of operations and permit termination activities with the OLRSO.

**9. Records.**

9.1. **For radioactive material permits, the PRSO and OLRSO will maintain records as required by the CFR Title 10, DA PAM 385-24 and AFI 33-322,** ***Records Management and Information Governance Program.***

9.2. **For non-permitted radioactive materials and radiation producing devices, the URSO and OLRSO will maintain surveys, inventories, investigations, and disposition records.**

9.3. **Personnel exposure records such as the Annual Report of Individual Occupational Exposure to Ionizing Radiation or any other military agency equivalent form, will be kept and maintained in the OLRSO's office and individual's personal medical record.**

RANDY P. OAKLAND, Brigadier General, USAF
Commander

## Attachment 1

## GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

***References***

10 CFR, *Energy*

49 CFR, *Transportation*

DAFI 91-202, *The US Air Force Mishap Prevention Program,* 10 April 2024

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFMAN 24-604, TM 38-250, NAVSUP PUB 505, MCO P4030.19J, DLAI 4145.3, *Preparing Hazardous Materials for Military Air Shipments*, 9 October 2020.

AFMAN 40-201, *Radioactive Materials (RAM) Management*, 28 February 2024

AFMAN 48-148, I*onizing Radiation Protection,* 19 July 2020

AFPD 48-1, *Aerospace & Operational Medicine Enterprise,* 7 June 2019

AR 385-10, *The Army Safety Program*, 24 February 2017

DAFI 91-204, *Safety Investigations and Reports*, 10 March 2021

DAFMAN 48-125, *Personnel Ionizing Radiation Dosimetry*, 26 October 2020

DA PAM 385–24, *The Army Radiation Safety Program,* 30 November 2015

DA PAM 385–25, *Occupational Dosimetry and Dose Recording for Exposure to Ionizing Radiation,* 2 October 2012

DA PAM 385-40, *Army Accident Investigations and Reporting*, 18 March 2015

DHA AI 087, *Radiation Safety Program (RSP) and Radiation Safety Committee (RSC),* August 1, 2019.

DLAR 4145.11, AFJMAN 23-209, TM 38-410, NAVSUP PUB 573, MCO 4450.12A, *Storage and Handling of Hazardous Materials*, 4 March 2020.

DLAR 4145.41, DAR 700-143, NAVSUPINST 4030.55D, AFMAN 24-210_IP, MCO 4030.40C, *Packaging of Hazardous Materials*, 21 April 2015.

DLAR (JP) 4145.08, NAVSUPINST 4000.34C, AFJI 23-504, MCO P4400.105E, *Radioactive Commodities in the Department of Defense Supply System,* 28 March 2018

JBSA *Supplemental Medical Memorandum of Agreement,* 2020

TO 33B-1-1, *Nondestructive Inspection Methods, Basic Theory*. 15 October 2016

***Adopted Forms***

**AF Form 55**, *Employee Safety and Health Record*

**NRC Form 241**, *Report Of Proposed Activities in Non-Agreement States, Areas of Exclusive Federal Jurisdiction, Or Offshore Waters*

**AF Form 847**, *Recommendation for Change of Publication*

***Prescribed Forms***

None

***Abbreviations and Acronyms***

**ABW**—Air Base Wing

**AEA**—Atomic Energy Act

**ACOM**—Army Command

**AF**—Air Force

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFPD**—Air Force Policy Directive

**AFRIMS**—Air Force Records Information Management System

**AI**—Administrative Instruction

**ARRAD**—Air Force Radioactive Recycling and Disposal (AFRRAD)

**ALARA**—As Low As Reasonably Achievable

**AMDS**—Aerospace Medicine Squadron ANG—Air National Guard

**AR**—Army Regulation

**ARA**—Army Radiation Authorization

**ASCC**—Army Service Component Command

**BAMC**—Brooke Army Medical Center

**CC**—Commander

**CFR**—Code of Federal Regulations

**CONS**—Contracting Squadron

**DA PAM**—Department of the Army Pamphlet

**DHA**—Defense Health Agency

**DLA**—Defense Logistics Agency

**DLAR(JP)**—Defense Logistics Agency Regulation, Joint Publication

**DoD**—Department of Defense

**DOE**—Department of Energy

**DOL**—Department of Labor

**DOT**—Department of Transportation

**ESOH-C**—Environmental, Safety, and Occupational Health Council

**FSH**—Fort Sam Houston

**FSS**—Force Support Squadron

**GLD**—Generally Licensed Device

**HAZMAT**—Hazardous Material

**IAW**—In Accordance With

**IRSO**—Installation Radiation Safety Officer

**JBSA**—Joint Base San Antonio

**JSTO**—Job Safety Training Outline

**LRS**—Logistics Readiness Squadron

**MOA**—Memorandum of Agreement

**MREM**—Milli Roentgen Equivalent Man

**NDI**—Non-Destructive Inspection

**NRC**—Nuclear Regulatory Commission

**OLRSO**—Operating Location Radiation Safety Office

**OPR**—Office of Primary Responsibility

**PM**—Preventive Medicine

**PPE**—Personal Protective Equipment

**PRSO**—Permit Radiation Safety Officer

**RAM**—Radioactive Material

**RAMMIS**—Radioactive Materials Management Information System

**RIC**—Radioisotope Committee

**RDS**—Records Disposition Schedule

**RPD**—Radiation Producing Device

**RSO**—Radiation Safety Officer

**SNM**—Special Nuclear Material

**SSDR**—Sealed Source and Device Registry

**URSO**—Unit Radiation Safety Officer

**USAF**—United States Air Force

***Terms***

**91(a) Material**—RAM exempted from NRC licensing controls under Section 91(a) of the Atomic Energy Act (AEA) of 1954, as amended, in the interest of national defense, under the possession of the DOE.

**91(b) Material**—RAM exempted from Nuclear Regulatory Commission licensing controls under Section 91(b) of the AEA of 1954, as amended, in the interest of national defense, under the

possession of the DoD. These include the RAM in nuclear weapons – e.g., uranium isotopes, plutonium isotopes, tritium, and other radioactive components of nuclear weapons. These also include the components of nuclear reactors that fall under the definition of 91(b).

**ALARA**—Acronym for "as low as is reasonably achievable" means making every reasonable effort to maintain exposures to radiation as far below applicable dose limits as is practical, consistent with the purpose for which the activity is undertaken, taking into account the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations and in relation to utilization of nuclear energy, RAM, and radiation in the public interest.

**Ionizing Radiation**—Any electromagnetic or particulate radiation capable of producing ions, directly or indirectly during its passage through matter. It includes gamma rays, x-rays, alpha particles, beta particles, neutrons, protons and other particles and electromagnetic waves capable of producing ions.

**License**—Written authorization from the NRC or an Agreement State to acquire, receive, use, store or transfer byproduct, source, or SNM. Licenses will be either (1) General License published in NRC or Agreement State Regulations, that is effective without any need to send an application to, or that is effective to any applicant on registration with, the NRC or an Agreement State or (2) Specific License issued by the NRC or Agreement State to a named applicant who has filed an application authorizing acquisition, ownership, receipt, storage, use, transfer, and disposal of chemical or physical forms of radioisotopes specified in the license. This license has an expiration date renewable on application to the issuing authority. The license may be limited in scope (authorizing only certain specific radioisotopes for limited users) or broad (authorizing the use of a wide variety of radioisotopes without regard to form, quantity, or use).

**Nuclear Regulatory Commission**—An agency established by Title II of the Energy Reorganization Act of 1974 (Public Law 93-438) to regulate byproduct, source, and SNM as provided for by the Atomic Energy Act of 1954, as amended. Within the NRC, final authority rests with the five member Commission acting as a body.

**Permit**—Shortened term for written authorization from an appropriate authority for Air Force organizations to receive, possess, distribute, use, transfer, or dispose of radioactive materials. See also Air Force Radioactive Material Permit.

**Permit Radiation Safety Officer**—An individual, named on the USAF RAM Permit, with specific education, training, and professional experience in radiation protection practice appointed by a Permittee or the USAF Radioisotope Committee to manage radiation safety programs.

**Radiation Safety Officer**—An individual with specific education, training, and professional experience in radiation protection practice appointed by a Permittee or the USAF Radioisotope Committee to manage radiation safety programs. The term "Radiation Safety Officer" is a functional title and does not denote a commissioned status or specialty code. The RSO must have the education, training, and professional experience needed for the job. Take care when addressing RSO qualifications and duties to distinguish between IRSO and PRSOs. Individuals appointed as the IRSO might not always have the specific technical experience and training needed to qualify as the PRSO.

**Radioactive Item**—A single unit or article constructed of or having RAM, greater than exempt quantities, as a component part.

**Radioactive Material (RAM)**—Materials whose nuclei, because of their unstable nature, decay by emission of ionizing radiation. The radiation emitted may be alpha particles, beta particles, gamma rays, X-rays, or neutrons.

**USAF Radioactive Material Permit**—Written authorization from the Air Force Radioisotope Committee for Air Force organizations to receive, possess, distribute, use, transfer, or dispose of radioactive materials.

**USAF Radioisotope Committee (RIC)**—A committee established to satisfy the requirements of with the Air Force master materials license to coordinate the administrative and regulatory aspects of licensing, possessing, distributing, using, transferring, transporting and disposing of all radioactive material in the Air Force except that transferred from Department of Energy to the Department of Defense in nuclear weapon systems, certain radioactive components of weapons systems and nuclear reactor systems, components and fuel controlled under Section 91 of the Atomic Energy Act of 1954, as amended.