

**BY ORDER OF THE
325TH FIGHTER WING COMMANDER
(AETC)**



AIR FORCE INSTRUCTION 40-201

**TYNDALL AIR FORCE BASE
Supplement**

18 OCTOBER 2011

Medical Command

**MANAGING RADIOACTIVE MATERIALS IN
THE US AIR FORCE**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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Air Force Instruction (AFI) 40-201, 16 March 2011, is supplemented as follows. This instruction supplements AFI 40-201, Managing Radioactive Materials in the US Air Force. It applies to 325 FW employees, contractors, Host Tenant Units, and Geographically Separated Units and activities that acquire, receive, store, distribute, or use radioactive materials or radiation producing devices. Refer recommended changes regarding this publication to the Office of Primary Responsibility (OPR), 325 AMDS/SGPB, using AF Form 847, *Recommendation for Change of Publication*. Ensure accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposal of Records Information Management System (AFRIMS): <https://www.my.af.mil/gcss-af61a/afirms/afirms/rims.cfm>.

SUMMARY OF CHANGES

This instruction has been revised and requires a complete review of all subject matter.

2. 16. 21. (Added) Establishes investigation levels to ensure exposure to personnel is maintained as-low-as-reasonably achievable (ALARA). Investigational levels should be developed for each occupational group and are intended to identify adverse trends, assess their causes, and implement appropriate corrective actions.

2.16.21.1. **(Added)** Occupational Groups monitored with on the Tyndall Air Force Base Dosimetry program are Diagnostic Imaging (4RO), Veterinarian (91A/64T), 325 SFS Vehicle and Cargo Inspection System Operations (3P0), and Air Force Research Laboratory Development Engineer (62E).

2.16.21.2. **(Added)** The Occupational Groups in para 2.16.21.1. will be assessed in accordance with requirements listed in paragraph 2.16.9, AFI 48-148, and AFMAN 48-125.

2.16.21.3. **(Added)** Investigation Action Levels are listed in Table 1, *Investigation Action Levels*. Investigation Action Levels for pregnant females monitored monthly with dosimetry are 5 millirem/month whole body. The values in the table are based on historical workplace trends. Actual trends show zero dose for most Occupational Groups monitored with dosimetry; any value above zero will trigger an investigation.

Table 1. Investigation Action Levels

LOCATION	DOSE TYPE	ACTION LEVEL (REM)	MONITORING PERIOD
Diagnostic Imaging Area B 10 % of dose limit	Eye	0.375	Quarterly
	Extremity	1.250	
	Shallow – Skin	1.250	
	Deep - B/G/X-Ray	1.250	
	Deep – Neutron	0.000	
	Total Effective	0.125	
Veterinarian Area VC 1% of dose limit	Eye	0.0375	Quarterly
	Extremity	0.1250	
	Shallow – Skin	0.1250	
	Deep - B/G/X-Ray	0.1250	
	Deep – Neutron	0.000	
	Total Effective	0.0125	
325 SFS VACIS Ops Area S 5% of dose limit	Eye	0.188	Quarterly
	Extremity	0.625	
	Shallow – Skin	0.625	
	Deep - B/G/X-Ray	0.625	
	Deep – Neutron	0.000	
	Total Effective	0.063	
AFRL/RXQ Developmental Engineering Area M 1% of dose limit	Eye	0.0375	Quarterly
	Extremity	0.1250	
	Shallow – Skin	0.1250	
	Deep - B/G/X-Ray	0.1250	
	Deep – Neutron	0.000	
	Total Effective	0.0125	

2.21. (Added) Logistics Readiness Squadron Operations Officer/Logistics Readiness Division Chief will:

- 2.21.2.1. **(Added)** Receipt. Procedures must include contacting Bioenvironmental Engineering (BE) immediately upon notification that radioactive material has arrived on base. BE will survey (within 3 hours of receipt during duty hours) any package labeled with a radioactive White I, Yellow II, or Yellow III label to verify the package does not have removable radioactive contamination or radiation intensity above the package limits. Contact BE at 283-7139 during duty hours. Priority 999 packages will be surveyed after normal duty hours by contacting a BE representative through the Command Post at 283-2854.
- 2.21.2.2. **(Added)** If personnel from either a receiving or using organization notes that a package or item is damaged, they will isolate the area around the container and immediately notify BE.
- 2.21.2.3. **(Added)** Shipment. Where possible, radioactive material items that are not needed for the item shipment (such as removable check sources) will be removed and stored by the owning organization to minimize shipping requirements and liability.
- 2.21.2.4. **(Added)** Maintain an approved temporary storage area for radioactive materials and radio-isotope containing commodities.
- 2.25.11.3. **(Added)** Designate in writing a primary and alternate Permit RSO for each permit. The permittee, commander, or equivalent will appoint qualified individuals to be the Permit RSO/alternate. When units do not have personnel meeting the education or experience requirements of AFI 40-201, permittee, commander, or equivalent will provide resources to ensure designated RSO/alternates are appropriately trained.
- 2.25.11.4. **(Added)** Ensure that the unit specific operating instruction is updated or revised annually to define ALARA program objectives for their unit and specific operations, performance of unit radiation surveys, inventory procedures, receiving and shipping of radioactive materials, permit or license procedures, and emergency procedures in the event of an accident or spill, and training of personnel.
- 2.25.16. **(Added)** Also coordinate any radiation producing device/item (for example: radiofrequency emitters, lasers, General Licensed Devices, etc.) with the Installation RSO.
- 2.28.19. **(Added)** Maintain a radiation permit binder containing all documents listed below in the format prescribed.

2.28.19.1. **(Added)** Permit Radiation Binder Format:

Tab 1	Chronological Record of Events
Tab 2	Correspondence Related to Permit
Tab 3	Permit with all tie-down documents (if applicable), Permit Applications and Amendments, Permittee Acceptance of Responsibility
Tab 4	Appointment Letters—Permit and Unit Radiation Safety Officer
Tab 5	Training Documentation to include Training Plans
Tab 6	Assessment Reports (BE, AFIA)

Tab 7	Storage Area Survey
Tab 8	Swipe Sample Certificates and Log
Tab 9	Inventory Documentation
Tab 10	Transportation Log and Authority to Receive and Receipt Records
Tab 11	Operating Instruction—Shops
Tab 12	Accident/Incident Investigation Documentation
Tab 13	Air Force Instruction 40-201, Tyndall AFB Supplement 1

2.28.20. **(Added)** Prepares appointment letters for the unit commander to designate a primary and alternate Unit RSO and Permit RSO.

2.28.21. **(Added)** Authorized Users. Ensures procedures are in place to restrict use of permitted material to those personnel trained in proper operation of the units and those familiar with the radioactive source safety and accountability requirements.

2.28.22. **(Added)** Unit Self-Inspection. Conduct and document at least annually a complete radiation safety program self-inspection and forward a copy to the Installation RSO.

2.28.23. **(Added)** Swipe Sampling. Conduct swipe sampling as required by permit and this supplement.

2.28.24. **(Added)** Inventory. The Installation RSO or BE representative will receive a copy of all radiation source inventories as required by the permit. The inventory will be signed by the Permit RSO and a copy will be maintained in the Permit Binder.

2.28.25. **(Added)** Receipt and Shipment. Contact Installation RSO immediately upon notification that radioactive material has arrived on base. Monitoring must be performed within 3 hours of arrival. Coordinate with the Installation RSO prior to any transfer, disposal, or turn-ins. Written confirmation of receipt must be provided when receiving permitted materials from another Air Force organization and authority to receive permitted items must be verified in writing prior to transfer. Transportation log must be maintained.

2.28.26. **(Added)** Training. Conduct initial and annual radiation safety training for all unit personnel working with or around radiation sources. Ensure personnel are trained prior to equipment use.

2.28.27. **(Added)** Storage. Establish procedures to control access to permitted radioactive material storage and use areas. Permitted material must be stored in a locked, secured area when not under the direct supervision of an authorized user or RSO. Ensure Nuclear Regulatory Commission (NRC) Form 3, Notice to Employees; Notice of Availability of License, Regulations and Procedures and radiation area caution and warning signs are properly posted in the area where the permitted radioactive material will be used and stored. Coordinate with the Installation RSO to schedule annual radiation surveys when required.

2.29.8. **(Added)** Coordinates with the Installation RSO before procurement, new use, storage, and/or disposal of radiation sources or any changes in working conditions or activities which would affect the Radiation Safety Program.

2.29.9. **(Added)** Submit written request to the Installation RSO for consultation on radioactive material waste. Obtain written direction before transferring waste from the using facility.

2.29.10. **(Added)** Coordinate with the Unit/Permit RSO for the training of employees who will be occupationally working with radioactive materials and/or radiation producing devices.

2.30. **(Added)** Medical Group Commander will:

2.29.10. **(Added)** Ensure complete records are maintained of either measured or estimated radiation dose received by personnel during occupational practices and contingency operations in the member's medical record.

2.30.2. **(Added)** Ensure all records are forwarded for dose determinations to the USAF School of Aerospace Medicine (USAFSAM) for incorporation into the Master Radiation Exposure Registry (MRER) (this would also apply to locally performed bioassays, which should be forwarded to USAFSAM/SDRR for evaluation prior to being incorporated into the MRER.

2.30.3. **(Added)** Ensure medical authorities for organizations or units conducting classified operations shall maintain and be able to access all classified exposure data, ensuring all releasable data is available for maintenance in the MRER and to the monitored individual.

2.30.4. **(Added)** Ensure collection of bioassay and laboratory specimens as necessary to assess internal exposures from ingested or inhaled radioactive material or from wounds contaminated with radioactive material, IAW NATO Allied Engineering Publication-49, NATO Handbook for Sampling and Identification of Radiological Agents (SIRA). Samples shall be forwarded to USAFSAM for analysis and interpretation.

2.30.5. **(Added)** Ensure medical follow-up of personnel receiving significant exposures IAW AFI 48-148, Chapter 3.

2.30.6. **(Added)** Ensure compliance through designation of appropriate staff and resources IAW AFI 48-148, Chapter 4.

2.31. **(Added)** Public Health will:

2.31.1. **(Added)** Initiate action to investigate all alleged or actual radiation overexposures.

2.31.2. **(Added)** Provide health education briefings and consultation when requested by the Installation RSO, Unit and Permit RSOs or supervisors.

2.31.3. **(Added)** Promptly forward any declared pregnant females to BE for evaluation

PAUL M. SKALA, Colonel, USAF, MSC
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Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION***Abbreviations and Acronyms:*

BE— – Bioenvironmental Engineering

GLD— – Generally Licensed Device

GSU— – Geographically Separated Units

LRD— – Logistics Readiness Division

MREM— – Milli-REM

MRER— – Master Radiation Exposure Registry

SIRA— – Sampling and Identifier of Radiological Agents

USAFSAM— US Air Force School of Aerospace Medicine

VACIS— – Vehicle and Cargo Inspection System