

Administrative Changes to AFTTP 3-42.34, *Air Force Radiation Assessment Team (AFRAT)*

OPR: AFMED Agency/SGX

References throughout the publication to FFRN1 are hereby changed to FFNR1.

References throughout the publication to Rad/Nuc Incident Response Team are hereby changed to Nuc/Rad Incident Response Team.

References throughout the publication to FFRN2 are hereby changed to FFNR2.

References throughout the publication to Rad/Nuc Surveillance Team are hereby changed to Nuc/Rad Surveillance Team.

References throughout the publication to FFRN4 are hereby changed to FFNR4.

References throughout the publication to Rad/Nuc Laboratory Team are hereby changed to Nuc/Rad Laboratory Team.

References throughout the publication to FFRN6 are hereby changed to FFNR6.

References throughout the publication to Rad/Nuc Dosimetry Team are hereby changed to Nuc/Rad Dosimetry Team.

References throughout the publication to FFRN8 are hereby changed to FFNR8.

References throughout the publication to Rad/Nuc Tactical C2 Support Team are hereby changed to Nuc/Rad Tactical C2 Support Team.

References throughout the publication to FFRN9 are hereby changed to FFNR9.

References throughout the publication to Rad/Nuc Response Liaison Team are hereby changed to Nuc/Rad Response Liaison Team.

References throughout the publication to FFRNB are hereby changed to FFNRB.

References throughout the publication to Rad/Nuc Laboratory Equipment are hereby changed to Nuc/Rad Laboratory Equipment.

References throughout the publication to FFRNC are hereby changed to FFNRC.

References throughout the publication to Rad/Nuc Dosimetry Equipment are hereby changed to Nuc/Rad Dosimetry Equipment.

References throughout the publication to FFRND are hereby changed to FFNRD.

References throughout the publication to Rad/Nuc Surveillance Equipment are hereby changed to Nuc/Rad Surveillance Equipment.

12 July 2024

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

**AIR FORCE TACTICS, TECHNIQUES
AND PROCEDURES 3-42.34**



14 OCTOBER 2022

Tactical Doctrine

**AIR FORCE RADIATION ASSESSMENT
TEAM (AFRAT)**

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The Air Force Tactics, Techniques, and Procedures (AFTTP) 3-42 series of publications is the primary reference for expeditionary medical support capability. AFTTP 3-42.34 provides the tactics, techniques, and procedures for the Air Force Radiation Assessment Team (AFRAT). The doctrine in this document is authoritative but not directive. This publication applies to all civilian employees and uniformed members of the Regular Air Force, the Air Force Reserve, and the Air National Guard (ANG). This publication does not apply to the United States Space Force. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using Air Force Form 847, *Recommendation for Change of Publication*. Route AF 847 through the appropriate functional chain of command and parent major command. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 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. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

The AFRAT construct has been restructured to improve mobility, simplify force presentation, and ensure support for the full spectrum of radiological and nuclear (rad/nuc) operations. This document has been updated to reflect the changes to the AFRAT unit type code (UTC) mission capabilities, organization, and employment. It updates UTC-specific training requirements, expeditionary combat support requirements, and site layout. It includes general content refresh

updates and administrative changes throughout. This document has been substantially revised and should be completely reviewed.

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Chapter 1

INTRODUCTION

1.1. Purpose. This publication provides general operational and planning guidance on the Air Force Radiation Assessment Team (AFRAT). It can be used as a source document for developing standardized policies, operating procedures, training programs, and allowance standards. Operation plans and regional guidance provide mission-specific details that amplify and tailor the guidance contained in this publication.

1.2. Background. The AFRAT traces its roots to the 1960s and the height of the Cold War. The team's primary mission was to respond to accidents involving nuclear weapons as Strategic Air Command maintained the nation's defense posture through Operation CHROME DOME. Since that time, the team's focus has expanded to include the full spectrum of radiological and nuclear threats (rad/nuc) across the competition continuum. The team has deployed to conflict zones, provided support to domestic civil authorities, and responded to nuclear reactor accidents. Operation TOMODACHI in 2011 was the most extensive and longest running real-world employment of the AFRAT since its inception. Lessons learned from that event and numerous field exercises since then have informed changes and improvements to the team's tactics, techniques, and procedures, force packaging concepts, and allowance standards.

1.3. Medical Threat Environment. The proliferation of weapons of mass destruction and potential adversarial acts involving improvised nuclear devices, radiological dispersal devices, radiological exposure devices, or an attack on nuclear facilities or transportation systems pose a radiological threat to U.S. national security and U.S. forces. Non-deliberate radiological threats include nuclear weapons accidents (broken arrows), nuclear reactor incidents (faded giants), and exposure to depleted uranium munitions and other radioactive materials.

1.3.1. Radiation exposure poses a spectrum of possible health effects, depending on the radiation dose received, that can range from acute radiation syndrome to increased cancer risk as well as psychological impacts. These effects have potential to reduce mission effectiveness, impact immediate troop health, and contribute to long-term medical issues for deployed forces.

1.3.2. Force health protection measures include comprehensive radiation surveillance and dose prevention. The AFRAT provides a specialized capability to measure, analyze, and evaluate the radiation levels that exist in the environment, effectively quantify and communicate these risks to field commanders, and provide guidance on personnel protective measures. The team performs internal and external dose assessments for personnel operating in radiation contaminated areas to minimize exposure.

Chapter 2

AFRAT SUPPORT CAPABILITIES AND FORCE PACKAGING

2.1. Mission. The AFRAT provides rapid, global response to rad/nuc accidents and incidents. They provide expertise in planning, surveillance, analysis, and assessment of health, environmental, and operational risks. They advise commanders and other decision makers on radiation health effects, operational impacts, protective actions, recovery activities, environmental health risks, and risk management during contingency planning, response, and post-contingency operations.

2.2. AFRAT Composition. AFRAT capabilities are grouped into distinct unit type codes (UTCs) that provide scalable response options tailored to operational requirements. The rapid response team can support initial operations up to 72 hours. Individual support teams can be added to supplement the existing capabilities at an operating location. Deployment of the full team is recommended for large-scale or extended duration incidents. See [Chapter 3, OPERATIONS](#), for more information on employment scenarios. [Table 2.1](#) provides the personnel details.

Table 2.1. AFRAT Composition.

Title	AFSC	SEI	Grade	Quantity
Rapid Response Team				
FFRN1, Rad/Nuc Incident Response Team				
Bioenvironmental Engineer, Health Physics	043E3G		05	1
Bioenvironmental Engineer, Health Physics	043E3G		04	1
Bioenvironmental Engineering Craftsman	4B071			8
Medical Laboratory Craftsman	4T071			2
Total UTC Personnel				12
Support Teams				
FFRN2, Rad/Nuc Surveillance Team				
Bioenvironmental Engineering Craftsman	4B071			6
Total UTC Personnel				6
FFRN4, Rad/Nuc Laboratory Team				
Bioenvironmental Engineer, Health Physics	043E3G		04	1
Bioenvironmental Engineering Craftsman	4B071			1
Medical Laboratory Craftsman	4T071			1
Medical Laboratory Journeyman	4T051			6
Total UTC Personnel				9
FFRN6, Rad/Nuc Dosimetry Team				
Bioenvironmental Engineering Craftsman	4B071			1
Medical Laboratory Journeyman	4T051			2
Total UTC Personnel				3
FFRN8, Rad/Nuc Tactical Command and Control (C2) Support Team				
Health Services Management Craftsman	4A071	260		1

Title	AFSC	SEI	Grade	Quantity
Medical Materiel Craftsman	4A171			1
Biomedical Equipment Craftsman	4A271			1
Total UTC Personnel				3
FFRN9, Rad/Nuc Response Liaison Team				
Bioenvironmental Engineer, Health Physics	043E3G		04	2
Bioenvironmental Engineer, Health Physics	043E3G		03	2
Total UTC Personnel				4
Total AFRAT Personnel				37
Note: Air Force Specialty Code (AFSC), grade, and skill-level substitutions are in accordance with the <i>War and Mobilization Plan, Volume 1 (WMP-1), Enclosure F, Air Force Medical Service (AFMS) Supplement</i> , and AFI 10-403, <i>Deployment Planning and Execution</i> , unless specified otherwise in the mission capability statement.				

2.3. FFRN1, Rad/Nuc Incident Response Team. The Rad/Nuc Incident Response Team provides technical expertise in crisis planning, field response, and consequence management activities involving rad/nuc accidents, incidents, and threats. The team can deploy as a standalone team or to support other fielded consequence management capabilities (for example, the Preventive and Aerospace Medicine [PAM] Team, Emergency Management personnel). The team does not deploy with its own shelter system and requires a dedicated workspace or shelter of opportunity.

2.3.1. The team is trained and equipped to identify and quantify health risks related to radiation exposure. They advise commanders and other decision makers on health and environmental effects, operational impacts, protective actions, and risk management procedures.

2.3.2. The team performs direct radiation measurements and collects air, water, soil, and vegetation samples for environmental monitoring and radiation analyses. They have limited laboratory equipment and can conduct initial sample analysis and assessment of the type and quantity of radioactive material present. The team relies on reachback from the United States Air Force School of Aerospace Medicine (USAFSAM) for more robust radioanalysis support.

2.3.3. The team measures and records external radiation exposures. They can issue electronic dosimeters for up to 200 individuals.

2.3.4. The team deploys with a small array of specialized radiation detection equipment packaged in portable field packs. Based on the mission, team members may be required to travel with their field packs and hand carry them to the employment site. The field packs provide approximately three days of supplies and include the following equipment:

- Radiac kits with multi-function probes
- Electronic personal dosimeters with neutron detection and monitoring capabilities
- Air samplers
- Ion chambers
- Alpha/beta swipe survey counters
- Portable sodium iodide (NaI) gamma spectrometers
- Portable high purity germanium (HPGe) gamma spectrometers

- Scintillation probes
- Environmental sampling kits
- Computer systems and software to support radiological risk assessment
- Personal protective equipment

2.4. FFRN2, Rad/Nuc Surveillance Team. The Rad/Nuc Surveillance Team provides bioenvironmental engineering support personnel to extend field surveillance operations. Team members have expertise in environmental monitoring, field operations, and radiation assessment. They perform direct radiation measurements and collect air, water, soil, and vegetation samples for radiation analysis and risk assessment. The team is not standalone. It should be force packaged with the Rad/Nuc Incident Response Team and equipment package, FFRND, Rad/Nuc Surveillance Equipment.

2.5. FFRND, Rad/Nuc Surveillance Equipment. This equipment package provides field surveillance supplies and equipment to support large-scale rad/nuc incidents or sustained operations for up to 30 days. This equipment package should be force packaged with FFRN2, Rad/Nuc Surveillance Team. It includes the following equipment:

- Radiac kits with multi-function probes
- Air samplers
- Field Instrument for Detection of Low Energy Radiation (FIDLER) probes
- Scintillation probes
- Ion chambers
- Neutron survey probes
- Mobile radiation monitoring system
- Portable NaI gamma spectrometers
- Environmental sampling kits
- Computer systems and software to support radiological risk assessment
- Global positioning system
- Workspace shelter and environmental control unit
- Personal protective equipment

2.6. FFRN4, Rad/Nuc Laboratory Team. The Rad/Nuc Mobile Laboratory Team provides initial identification and quantification of radioactive material following a radiological or nuclear incident or threat. Team members have expertise in radiation measurement, gamma spectroscopy, and radiation laboratory operations. The team provides on-site analysis of the level of radioactivity in environmental (air, water, soil, vegetation) and biological samples. The team is not standalone. It should be force packaged with the Rad/Nuc Incident Response Team and equipment package FFRNB, Rad/Nuc Laboratory Equipment. [Table 2.2](#) provides an overview of the team's on-site analysis capabilities.

Table 2.2. Rad/Nuc Laboratory Analysis Capabilities.

Target Radiation	Medium	Initial Setup Time	Daily Calibration Time	Analysis Complete Time
High Purity Gamma Spectroscopy				
Gamma	Swipes, soil, vegetation,	48 hours	1.5 hours	8 hours

Target Radiation	Medium	Initial Setup Time	Daily Calibration Time	Analysis Complete Time
	liquids, foodstuffs			
Passivated Implanted Planar Silicon Detection				
Alpha, Beta	Swipes, liquids	6 hours	Not applicable	30 minutes
Liquid Scintillation Counting				
Beta	Swipes, liquid	6 hours	Not applicable	30 minutes
Note: Analysis times are optimal estimates. Actual timelines may vary depending on need, resolution of results, and ambient radiation levels at the beddown location.				

2.7. FFRNB, Rad/Nuc Laboratory Equipment. This equipment package provides advanced laboratory equipment and supplies to support large-scale rad/nuc incidents or sustained operations for up to 30 days. This equipment package should be force packaged with FFRN4, Rad/Nuc Laboratory Team. It includes the following equipment:

- Radiac kits with multi-function probes
- Alpha/beta swipe survey counters
- Portable HPGe gamma spectrometers
- Liquid scintillation counting system with tritium columns
- Workspace shelter and environmental control unit
- Personal protective equipment

2.8. FFRN6, Rad/Nuc Dosimetry Team. The Rad/Nuc Dosimetry Team provides field dosimetry support personnel to extend coverage following a large scale or extended duration radiological or nuclear event. The team is not standalone. It should be force packaged with the Rad/Nuc Incident Response Team and equipment package, FFRNC, Rad/Nuc Dosimetry Equipment. The combined teams can provide personal radiation monitoring, analysis, and dose calculations for up to 1,100 individuals.

2.9. FFRNC, Rad/Nuc Dosimetry Equipment. This equipment package provides dosimetry equipment and supplies to support large-scale rad/nuc incidents or sustained operations for up to 30 days. It should be force packaged with FFRN6, Rad/Nuc Dosimetry Team. It includes the following equipment:

- Electronic personal dosimeters with neutron detection and monitoring capabilities
- Workspace shelter and environmental control unit

2.10. FFRN8, Rad/Nuc Tactical C2 Support Team. The Rad/Nuc Tactical C2 Support Team provides supplemental medical command, administration, logistics, biomedical equipment repair, and information systems personnel to support large-scale or extended duration AFRAT operations. The team is not standalone and is typically force packaged with the Rad/Nuc Incident Response Team or Rad/Nuc Surveillance Team.

2.11. FFRN9, Rad/Nuc Response Liaison Team. The Rad/Nuc Response Liaison Team provides supplemental on-site health physics support for large-scale or extended duration AFRAT operations. The team has expertise in contingency planning, incident command and control,

radiation detection and measurements, radiation health risk assessment, and assessment and mitigation of radiation health effects. The team deploys with computer systems and software to support radiological risk assessment. The team is typically force packaged with the Rad/Nuc Incident Response Team but can also deploy as a standalone team for on-site health physics support.

2.12. Operational Capability Timelines. The Rad/Nuc Incident Response Team deploys with portable field packs and can provide initial support within an hour of arrival. Initial capabilities include preliminary health risk assessment, consequence management, data analysis reviews, downrange mission planning, and electronic personal dosimeter distribution. The team can reach full operational capability within 24 hours and can operate up to 72 hours without resupply. The scope of capabilities increase with deployment of the full AFRAT. The full AFRAT can reach full operational capability within 48 hours of arrival. **Table 2.3** lists the key tasks performed at each phase.

Table 2.3. AFRAT Operational Capability Timelines.

Full AFRAT Capabilities	
	Tritium measurement
	Swipe sample analysis for aircraft clearance
	Liquid scintillation
	Gamma spectroscopy
	On-site laboratory analysis
	Neutron detection
	Low-energy radiation detection
	Expanded dosimetry distribution and dose tracking
Rad/Nuc Incident Response Team and Initial Operational Capabilities	All initial operational capabilities
Active dosimetry distribution and dose tracking	
Swipe sample analysis for contamination screening	
Building clearance	
Contamination screening	
Air sampling	
Source location identification	
Quantitative field assessment	
CBRNResponder/RadResponder	
Radiation force health protection oversight	
Risk projection	
Risk communication and public affairs involvement	
Contingency support and consequence management	
Evacuation and protective actions recommendations	

Full AFRAT Capabilities	
Timeline: 24 hours	Timeline: 48 hours
Note: Operational timelines assume availability of transport to the operational site, arrival of personnel and equipment, and expeditionary combat support/base operating support (ECS/BOS). See Chapter 6, INTEGRATION AND INTEROPERABILITY , for more information on ECS/BOS requirements.	

Chapter 3

OPERATIONS

3.1. UTC Posturing. AFRAT UTCs are postured against units in the Unit Type Code Availability database and Medical Resource Letter. AFRAT equipment and facility infrastructure packages may be pre-positioned in theater based on requirements from geographic combatant commanders and the Commander, Air Force Forces (COMAFFOR).

3.2. Deployment Planning. Planners consider a number of factors, including pre-positioned materiel, host nation support agreements, contingency contracts, and acquisition cross-service agreements, in planning deployments and tailoring unit-level personnel and equipment requirements. Time-phased force deployment data is built by the air component and flowed through the major commands to the wing plans and operations centers for action.

3.3. Pre-Deployment Preparations. Team members should work closely with the medical readiness office, emergency management, and theater medical personnel to prepare for deployment. They should review operation plans, reporting instructions, threat and vulnerability assessments, intelligence reports, and other pertinent deployment data and follow the pre-deployment requirements in AFI 10-403 and AFI 41-106, *Air Force Medical Readiness Program*.

3.3.1. All personnel considered for deployment with any AFRAT component should have accomplished 70 percent or more of their UTC's mission essential task list items unless waived by the AFRAT chief.

3.3.2. Due to the sensitive and highly classified nature of some AFRAT missions, team chiefs should possess a Top Secret Sensitive Compartmented Information (TS/SCI) clearance or interim clearance.

3.3.3. The AFRAT chief and non-commissioned officer in charge (NCOIC) should ensure that all deploying personnel and equipment meet the tasking requirements defined by the supported command.

3.4. Preparation of Equipment and Cargo. UTC team chiefs should assess the deployability of assigned equipment UTCs with medical logistics personnel and identify shortfalls. Deploying AFRAT chiefs should ensure an adequate number of personnel are qualified in pallet build-up and cargo handling procedures (to include hazardous, protected, and classified cargo) to serve as cargo increment monitors during deployment and redeployment in accordance with AFI 10-403.

3.4.1. Hazardous cargo is subject to Defense Transportation Regulation (DTR) 4500.9-R Part III, *Mobility*, Air Force Manual (AFMAN) 24-604, *Preparing Hazardous Materials for Military Air Shipments*, and host nation requirements. AFRAT equipment packages include radiological check sources that require special shipment preparation. The local radiation safety officer should witness and verify the packaging of radiological sources. AFRAT chiefs should ensure an adequate number of personnel are trained in shipping and receiving radioactive materials and adhere to Department of Transportation requirements specified in Title 49, Code of Federal Regulations 172, **Part 172**, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans*, and Nuclear Regulatory Commission requirements specified in Title 10, Code of Federal Regulations 71.5, *Transportation of Licensed Material*,

and Title 10 Code of Federal Regulations 20.1906, *Procedures for Receiving and Opening Packages*. While at the deployed location, radiological sources should be closely managed.

3.4.2. Protected cargo includes controlled substances, items vulnerable to theft, and weapons and ammunition. A controlled medical item custodian should witness and verify the packaging of medically controlled items. At the deployed location, controlled items should be stored in locked rooms or containers and managed in accordance with AFMAN 41-209, *Medical Logistics Support*. Units are responsible for assigning primary and alternate weapons and ammunition couriers to ensure security and accountability during transit in accordance with Department of the Air Force Instruction (DAFI) 31-101, *Integrated Defense*, and Department of the Air Force Manual (DAFMAN) 21-201, *Munitions Management*.

3.4.3. Classified material should be packaged, marked, safeguarded, and transported in accordance with DAFI 24-602 Volume 2, *Cargo Movement*. Units are responsible for assigning appropriately cleared and trained couriers to accompany classified material.

3.5. Deployment. The AFRAT typically deploys in a crisis planning, consequence management, and force health protection role following a radiological or nuclear incident. Typical deployment scenarios include nuclear weapons accidents (broken arrows), nuclear reactor accidents (faded giants), release of a radiological dispersal or improvised nuclear device, and humanitarian assistance following a nuclear incident. The team may also deploy to high threat areas based on available intelligence data and theater requirements to provide crisis planning support and limited radiation surveillance. The AFRAT may deploy in whole or in part, depending on the type of event, magnitude, and capabilities of other field response resources. The full complement of AFRAT UTCs typically deploys in response to large-scale or extended duration radiological or nuclear events. Individual components may deploy to provide tailored support to planning, pre-positioning, or initial recovery operations. The Rad/Nuc Incident Response Team deploys as soon as possible upon notification to establish initial capability followed by the other AFRAT support teams if necessary.

3.6. Initial Employment. The Rad/Nuc Incident Response Team provides ground commanders a rapid-response force trained to conduct specialized consequence management. The team may provide direct support to the joint task force commander, air component, or other theater forces as directed in the operation order. During the initial phase of employment, priorities are to establish command and control, provide input into site selection, conduct preliminary health risk assessments, consequence management, surveillance, data analysis reviews, downrange mission planning, and distribute electronic personal dosimeters. The team works to determine the type and extent of the radiological hazard and implement necessary protective actions to minimize radiation doses. Should the ground situation exceed the team's capabilities, additional rad/nuc support teams may be deployed.

3.7. Employment of AFRAT Support UTCs. The AFRAT support UTCs reinforce the Rad/Nuc Incident Response Team and typically only deploy for large-scale or extended duration operations or when the Incident Response Team's on-scene assessment determines additional support is needed. They may deploy with the Incident Response Team or as follow-on support.

3.7.1. The Rad/Nuc Surveillance personnel and equipment UTCs (FFRN2 and FFRND) deploy to areas with extensive radiological contamination and when additional surveillance and radiation assessment resources are needed. The team can be operational within 24 hours of initial arrival or redeployment.

3.7.2. The Rad/Nuc Laboratory personnel and equipment UTCs (FFRN4 and FFRNB) deploy to areas with extensive radiological contamination or when onsite radioanalytical capabilities are needed. The team can be operational within 48 hours of initial arrival or redeployment.

3.7.3. The Rad/Nuc Dosimetry personnel and equipment UTCs (FFRN6 and FFRNC) deploy when a major incident occurs or when radiation dose monitoring for more than 200 field personnel is required. The team can be operational within 24 hours of initial arrival or redeployment.

3.7.4. The Tactical C2 Support Team (FFRN8) deploys for large-scale and extended duration operations when dedicated administration, command center, material management, equipment calibration and repair, and communications technical support is needed. The team should deploy with or closely after the Rad/Nuc Incident Response Team to help establish the team's operations center, medical communications, site laydown, and supply chain support. The team does not have a separate equipment package.

3.7.5. The Rad/Nuc Response Liaison Team (FFRN9) deploys for large-scale and extended duration operations where on-site liaison officer support is needed. The team provides on-site technical assistance in crisis planning, response, health risk assessment, and AFRAT command support. The four-person team can be split into smaller increments. The team's accompanying supplies are hand portable and include radiological risk assessment tools.

3.8. Domestic and International Chemical, Biological, Radiological, and Nuclear (CBRN) Response. Upon direction by higher headquarters, the AFRAT may deploy to assist in domestic and international CBRN response efforts. The combatant command for the area of responsibility determines which AFRAT personnel and equipment UTCs support the mission based on mission scope, threat assessment, and availability of forces. The AFRAT can also augment the consequence management efforts of civilian authorities overwhelmed by a significant or catastrophic radiological or nuclear incident to the extent allowed by law to save lives, reduce suffering, and protect the environment. See Joint Publication (JP) 3-41, *Chemical, Biological, Radiological, and Nuclear Response*, for more information on U.S. military support for domestic and international CBRN Response.

3.9. Site Laydown Considerations. Beddown locations are at the discretion of the field commander. Ideally, AFRAT components should be positioned in a secure, forward operating location within 5 kilometers of the supported contingency upwind of the impacted area. The equipment packages for the surveillance, laboratory, and dosimetry support teams include workspace shelters to house operations. Site laydown considerations include security, accessibility to the impacted area, proximity to environmental hazards (flight-line noise, sewage plant, power and communication lines), orientation to current and projected wind and weather patterns, and terrain. The AFRAT relies on current meteorological and imagery data for fallout and plume projections, risk assessments, radiological monitoring, and determination of appropriate protective actions. See [Attachment 3, FULL AFRAT LAYOUT](#), for a recommended site layout for the full team. See [Attachment 4, AFRAT SURVEILLANCE TEAM \(FFRN2\) SHELTER](#), for a sample shelter layout.

3.10. Operational Reports and Records. AFRAT chiefs and NCOICs submit required operational reports in accordance with AFMAN 10-206, *Operational Reporting (OPREP)*, and specific combatant commander, joint force commander, and commander, Air Force forces requirements. Data generated by the AFRAT (such as surveillance findings, radioanalytical data,

and external ionizing dose assessment data) should be reported through the chain of command and in accordance with theater policy. After-action reports and lessons learned are submitted in accordance with AFI 10-204, *Air Force Service Exercise Program and Support to Joint and National Exercise Program*, and AFI 10-1302, *Air Force Lessons Learned Program*. Records associated with AFRAT operations are maintained and disposed of in accordance with AFI 33-322, *Records Management and Information Governance Program*.

3.11. Redeployment. The AFRAT chief and NCOIC should actively participate in redeployment planning to ensure a time-phased reduction in medical services consistent with the deactivation of the deployed location, change in mission, or change in threat scenario. If applicable, AFRAT leadership should establish contact with their replacement teams to ensure continuity. Team chiefs should ensure that custody of equipment is signed over to the transportation officer. Equipment and supplies should be decontaminated in accordance with theater policy and applicable U.S. Department of Agriculture guidelines. Items not suitable for redeployment (such as the laboratory waste stream) should be appropriately redirected within the theater or disposed of.

Chapter 4

COMMAND AND CONTROL RELATIONSHIPS

4.1. Command and Control in Expeditionary Settings. Command and control for deployed AFRAT units is through line of the Air Force commanders. Air Force elements deployed into a theater are typically aligned under the command of the COMAFFOR. The AFRAT operates under the command structure established by the air expeditionary task force or joint task force to which they are assigned. Command and control relationships are usually defined in the warning, execution, operations, or task order. The AFRAT chief and NCOIC should have a clear understanding of the chain of command defined in the order before deployment and establish contact with leadership upon arrival.

4.1.1. The AFRAT normally operates under the local direction of the deployed expeditionary unit commander. However, due to the nature of the rad/nuc mission set, another Service may have tactical control and in some instances operational control.

4.1.2. AFRAT members may be organized under separate chains of command with different missions. For example, part of the team may be stationed with Joint Intelligence (J2) assets while the rest of the AFRAT is organized within Task Force Operations (TFOPS).

4.2. AFRAT Command Structure. The AFRAT chief is typically the senior ranking officer on the Rad/Nuc Incident Response Team. The AFRAT chief establishes the AFRAT organizational structure and identifies the team chiefs for each deployed AFRAT support UTC as necessary.

4.3. Air Combat Command Surgeon (ACC/SG) Responsibility. ACC/SG is the Manpower and Equipment Force Packaging (MEFPAK) Responsible Agency (MRA) for medical ground-based UTCs. ACC/SG has overall responsibility for AFRAT tactical doctrine, serves as the medical consultant for AFRAT operations, and provides technical guidance and planning.

Chapter 5

COMMUNICATIONS AND INFORMATION SYSTEMS

5.1. Communications Requirements. The AFRAT deploys with Department of Defense (DOD)-approved radios and computer systems. The team is not equipped with the communications infrastructure needed for independent operation and relies on host base communication units. The team requires access to the Defense Switched Network (DSN), secure voice communication, Non-classified Internet Protocol Router Network (NIPRNET), and SECRET Internet Protocol Router Network (SIPRNET) for data collection, reporting, and reachback purposes. See [Attachment 2, EXPEDITIONARY COMBAT SUPPORT REQUIREMENTS](#), for more information on communication requirements.

5.2. Radio Equipment. AFRAT equipment includes Joint Tactical Radio System (JTRS) compliant wideband and multiband land mobile radios. These radios are interoperable with existing DOD radio systems and joint networking waveforms. They support secure voice, data, and video communication over mobile, ad-hoc internet protocol based networks to include local command and control networks. Radios are allocated according to the allowance standard and operational specific requirements. These assets primarily support communications during deployment and redeployment phases and in austere environments where access to an established communications infrastructure may not be available.

5.3. Computer Systems. Computers issued to the AFRAT include the DOD Standard Desktop Configuration, the Theater Medical Information Program (TMIP) suite for theater health service support, and applications to support radiological risk assessment and dose assessment. [Table 5.1](#) lists the specialty-specific applications used by AFRAT.

Table 5.1. Specialty-Specific Applications.

Application	Purpose
RadResponder	Prescribe operational instructions to AFRAT members and document surveillance and analytical data (Online)
RESRAD-BUILD	Residual radiation dose modeling
RadAssist	Mobile radiation monitoring (software for RS-700 use)
WebREMS and Easy EPD	Interface with Air Force dosimetry system
Genie 2000	Gamma spectroscopy

5.4. Information Assurance Policy. AFRAT personnel must understand and follow information assurance procedures, to include communications and computer security, in accordance with AFI 17-130, *Cybersecurity Program Management*, DAFMAN 17-1301, *Computer Security (COMPUSEC)*, and associated Air Force information assurance guidance.

Chapter 6

INTEGRATION AND INTEROPERABILITY

6.1. Integration and Interoperability with Other Systems. Deployed medical personnel in a theater or area of operation may support elements of an air expeditionary force, components of the en route continuum of care system, joint medical counterparts, Special Operations Forces medical components, and other federal and civilian agencies. In some instances, theater planners may request medical support for bed-down locations not associated with a typical air expeditionary force or ECS/BOS infrastructure.

6.2. Expeditionary Combat Support/Base Operating Support (ECS/BOS) Requirements. The AFRAT deploys with limited organic capability and requires ECS/BOS. ECS/BOS requirements include (but are not limited to) billeting, messing and other consumable materials, power, water, ice, latrines, showers, laundry, waste management, exterior lighting, transportation, fuels, vehicle maintenance, equipment maintenance, general supplies, contracting, information and communications systems support, and security. ECS/BOS services are provided through the host base's capabilities, deployable bare base systems, and contracted civilian support. Chemical, radiological, and mixed waste disposal services are normally obtained on a contract basis or as part of other base waste disposal services. See [Attachment 2, EXPEDITIONARY COMBAT SUPPORT REQUIREMENTS](#), for quantified estimates on required support.

6.3. Field Response Integration. AFRAT components may work with other Air Force field response teams (such as the PAM teams and emergency management) for rad/nuc mission support. At the direction of higher headquarters, the AFRAT might integrate with other DOD radiological assets, such as the Armed Forces Radiobiology Institute's Medical Radiobiology Advisory Team (MRAT), U.S. Army Radiological Advisory Medical Team (RAMT), U.S. Army Nuclear Disablement Team (NDT), U.S. Marine Corps Chemical Biological Incident Response Force (CBIRF), U.S. Army and Navy radiological control teams, and the Defense Threat Reduction Agency Consequence Management Advisory Team (CMAT). When tasked in support of a Defense Support of Civil Authorities (DSCA) or large-scale foreign consequence management operation, the AFRAT might integrate with Department of Energy emergency response teams and other government agencies.

6.4. Technical Reachback. All AFRAT UTCs rely on USAFSAM for technical reachback support. USAFSAM provides radiation consulting, health physics expertise, electronic dosimeter reading and calibration, radiation detector calibration and support, and specialized equipment not found in the AFRAT deployable equipment packages. The AFRAT can send samples that require more rigorous analysis to USAFSAM's radioanalytical lab. The lab, which is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), can perform nuclide-specific analysis and other procedures that require more complex chemistry preparation, specialized equipment, and lower limits of detection. The lab's capabilities include alpha spectroscopy, urine and fecal analysis, in-vivo whole body counting, HPGe gamma spectroscopy, inductively-coupled-mass spectrometry, liquid scintillation, mobile monitoring, and electronic dosimetry. USAFSAM maintains comprehensive radiation exposure records for Air Force occupational radiation personnel. AFRAT personnel may consult with USAFSAM for access to this data in accordance with theater policy. See [Attachment 5, USAFSAM RADIOANALYTICAL](#)

REACHBACK SUPPORT CAPABILITIES, for more information on USAFSAM's radioanalytical support capabilities.

6.5. Sample Shipments. The AFRAT should coordinate with the transportation management office, logistics, field laboratory, and emergency management on local plans for shipping samples of radiological, chemical, or biological matter for further testing, as well as chain of custody procedures. The plan should identify the office of primary responsibility for packaging, shipping, escorting, and receiving the samples.

Chapter 7

SECURITY AND FORCE PROTECTION

7.1. Security Roles and Responsibilities. Medical personnel and equipment are non-combatant assets and, along with medical equipment, have protected status under the Geneva Conventions and the Law of Armed Conflict. Medical personnel and war reserve materiel assemblages are protected IAW DAFI 31-101. Arming requirements for deploying AFRAT personnel are mission and operating location specific and are provided in reporting instructions and theater guidance. Current threat assessments provided by the combatant commander and local threat conditions established by the joint task force, air expeditionary wing, or air expeditionary group commander dictate all local security measures. AFRAT personnel are responsible for following personal protection measures outlined in DAFI 31-101, area of responsibility security briefings, established force protection requirements, and local guidance.

7.2. Physical Security. Security forces guard medical facilities only if deemed necessary as part of the Integrated Defense Plan. If the threat changes, security forces may appoint an augmented detail to provide force protection and entry control (for example, a mass casualty event). AFRAT personnel should coordinate with the defense force commander for tactical security element support for surveillance missions outside the base perimeter or beddown location.

7.3. Operations Security. AFRAT personnel are responsible for protecting mission-critical information (to include medical or casualty information) in accordance with theater policy and AFI 10-701, *Operations Security (OPSEC)*. Classified information should be transmitted by secure means and protected in accordance with Department of Defense Manual (DODM) 5200.01, Volume 3_DAFMAN 16-1404, Volume 3, *Information Security Program: Protection of Classified Information*. Situation reports, medical surveillance, site locations, and compiled patient data are examples of information that may be classified and require protection.

7.4. Security of Weapons and Ammunition. Weapons and ammunition should be secured in accordance with DAFI 31-101 and local procedures. Normally, base security forces provide weapons handling guidance and an armory. In austere locations where access to an armory might not be available, AFRAT personnel are responsible for the safe storage of weapons and ammunition until the armory can assume responsibility. AFRAT personnel should coordinate with base security forces or the supported unit on local weapons handling guidance.

Chapter 8

TRAINING

8.1. Medical Readiness Training Requirements. Personnel assigned to AFRAT UTCs must complete the Comprehensive Medical Readiness Program (CMRP) training requirements specified in AFI 41-106 and the CMRP Category III Training Guide. Additional training that might be required to meet operational or theater specific requirements is identified in deployment reporting instructions, tasking line remarks, or (for domestic CBRN response missions) the Defense Readiness Reporting System (DRRS).

8.2. UTC and Job-Specific Training Requirements. AFRAT members attend formal training courses that are specific to their job function and UTC mission set as identified in [Table 8.1](#). These courses are a one-time requirement and are tracked in the Medical Readiness Decision Support System (MRDSS). Waivers or alternatives for these training requirements may be granted at the discretion of the AFRAT chief with written approval from the MEFPK responsible agency.

Table 8.1. AFRAT UTC and Job-Specific Training.

FFRN1, Rad/Nuc Incident Response Team	Skill Level		
	43E		7-Level
AFRAT Basic Workshop (Courses A and B) (Offered twice a year through USAFSAM, Wright-Patterson Air Force Base [AFB], OH)	●		●
Applied Radiological Response Techniques (ARRT) Level 1 (Distance learning course offered through Defense Nuclear Weapons School, Kirtland, AFB, NM)	●		●
ARRT Level 2 (Offered through Defense Nuclear Weapons School, Kirtland AFB, NM)	●		●
Environmental Monitoring (Offered through Oak Ridge Associated Universities, Oak Ridge, TN)			●
Medical Effects of Ionizing Radiation (MEIR) (Offered through Armed Forces Radiobiology Institute mobile training team)	●		●
Nuclear Emergency Team Operations (NETOPS) (Offered through Defense Nuclear Weapons School, Kirtland AFB, NM)			●
Nuclear Weapons Incident Response Training (NWIRT) (NWIRT Domestic Basic is offered through Defense Weapons Nuclear Weapons School, Kirtland AFB, NM. NWIRT Overseas Basic is offered through the mobile training team at a location in the European Command area of responsibility.)	●		
FFRN2, Rad/Nuc Surveillance Team	Skill Level		

Course			7-Level
AFRAT Basic Workshop (Courses A and B)			●
ARRT Level 1			●
ARRT Level 2			●
MEIR			●
NETOPS			●
FFRN4, Rad/Nuc Laboratory Team	Skill Level		
Course	43E	5-Level	7-Level
AFRAT Basic Workshop (Courses A and B)	●	●	●
MEIR	●	●	●
FFRN6, Rad/Nuc Dosimetry Team	Skill Level		
Course		5-Level	7-Level
AFRAT Basic Workshop (Courses A and B)		●	●
MEIR		●	●
FFRN8, Rad/Nuc Tactical C2 Support Team	Skill Level		
Course			7-Level
AFRAT Basic Workshop (Courses A and B)			●
Ludlum Calibration Course (Offered through Ludlum, Sweetwater, TX)			4A271 only
MEIR			●
Note: The AFRAT Basic course includes an additional two to three-day training module for the biomedical equipment repair technician (4A271), which includes specialized, hands-on training on AFRAT equipment. The biomedical equipment repair technician should attend AFRAT Basic before attending the Ludlam Calibration Course.			
FFRN9, Rad/Nuc Response Liaison Team	Skill Level		
Course	43E		
AFRAT Basic Workshop (Courses A and B)	●		
ARRT Level 1	●		
ARRT Level 2	●		
NWIRT – Domestic Basic	●		
MEIR	●		

8.3. Recommended Training Courses. Table 8.2 lists additional courses that are beneficial for AFRAT members to attend if mission requirements and funding allow. These suggestions are not intended to be a complete list of all available technical training options.

Table 8.2. Recommended Technical Training Courses.

FFRN2, Rad/Nuc Surveillance Team	Skill	
Course		7-Level
Applied Health Physics (Offered through Oak Ridge Associated Universities, Oak Ridge, TN)		●
Air Sampling for Radioactive Material (ASRM) (Offered through Oak Ridge Associated Universities,		●

Oak Ridge, TN)			
ARRT Level 1			
ARRT Level 2			
Basic Intermediate Radiological Nuclear Training (B/IRNT) (Offered through Defense Nuclear Weapons School, Kirtland AFB, NM)			●
Department of Transportation Radiological Shipping and Transportation Course (Offered at various locations and as distance learning)			●
Environmental Monitoring			●
Gamma Spectroscopy (Distance learning course offered through Oak Ridge Associated Universities, Oak Ridge, TN)			●
Marine Chemical Biological Incident Response Force (CBIRF) Basic Operations Course (Offered through Indian Head, MD)			●
Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) (Offered through Oak Ridge Associated Universities, Oak Ridge, TN)			●
Nuclear Weapons Orientation Course (NWOC) (Offered through Defense Nuclear Weapons School, Kirtland AFB, NM)			
NWIRT Domestic Basic			
FFRN4, Rad/Nuc Laboratory Team	Skill		
Course	43E	5-Level	7-Level
ASRM		●	
B/IRNT			●
Environmental Monitoring		●	
Gamma Spectroscopy	●		●
NETOPS		●	
FFRN6, Rad/Nuc Dosimetry Team	Skill		
Course		5-Level	7-Level
ARRT Level 1		●	●
ARRT Level 2		●	●
NETOPS		●	●
RESRAD-BUILD (Offered through Argonne National Lab, Lemont, IL)			●
FFRN8, Rad/Nuc Tactical C2 Support Team	Skill		
Course			7-Level
Hazard Prediction and Assessment Capability Level I (HPAC-1) (Offered through Defense Nuclear Weapons School, Kirtland AFB, NM)			4A071

NWIRT Basic		4A071
FFRN9, Rad/Nuc Response Liaison Team	Skill	
Course	43E	
B/IRNT	●	
HPAC-1	●	
HPAC-2	●	
MARSSIM	●	
Marine CBIRF Basic Operations Course	●	
NWOC	●	
RESRAD-BUILD	●	
Note: FFRN1 members should attend any of the courses that most closely correlates with their job functions.		

8.4. UTC Sustainment Training. UTC sustainment training occurs between formal course attendance cycles to maintain the skills and knowledge the team needs to fulfill its mission essential tasks. UTC sustainment training credit may be granted for participation in mission essential task-driven exercises, operational readiness exercises, local exercises, and joint exercises. Contact the ACC Exercise and Training Branch for information on approved sustainment training exercises.

8.4.1. Following completion of the initial AFRAT Basic Workshop formal training courses, AFRAT personnel should attend the AFRAT Basic functional exercise (Course B) or equivalent approved exercise annually for refresher training. Twice a year participation in the AFRAT Basic functional exercise is recommended. The AFRAT chief and ACC/SGX determine whether other exercises are equivalent and acceptable.

8.4.2. The biomedical equipment technician assigned to FFRN8 needs to maintain familiarity and proficiency on the calibration, repair, and routine maintenance of the AFRAT's radiation measurement equipment. USAFSAM provides in-service, hands-on training on the AFRAT's specialized equipment. This training is typically done in conjunction with the AFRAT Basic course and should be coordinated through the pilot unit.

8.5. Mission Essential Task Lists (METLs). Personnel assigned to an AFRAT UTC should be proficient in their functional-specific and AFRAT full team core METLs. METLs are available on the ACC/SG MEFPAK Playbook (<https://usaf.dps.mil/sites/12173/SitePages/ACC-SG-Ground-Medical-UTC-Management.aspx>) or from the ACC Exercise and Training Branch.

8.6. Pre-Deployment Mission Training. When possible, deploying AFRAT personnel should meet at USAFSAM two working days before departure for mission training. This training includes familiarization on mission communication and command structure, security and intelligence briefings, public health briefings, and expected radiological hazards.

8.7. CBRN Defense Training. AFRAT personnel subject to deployment should complete the CBRN defense training requirements prescribed in AFI 41-106 and DAFI 10-2501, *Air Force Emergency Management Program*. They should also be familiar with the CBRN passive defense and consequence management procedures outlined in AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, and Nuclear (CBRN) Environment*, JP 3-11, *Operations in Chemical, Biological, Radiological, and Nuclear Environments*, and *Planning Guidance for Response to a Nuclear Detonation* developed by the Homeland Security Council Interagency

Policy Coordination Subcommittee for Preparedness and Response to Radiological and Nuclear Threats.

8.8. CBRN Response Force Training. AFRAT personnel allocated to the CBRN Response Enterprise participate in Defense CBRN Response Force (DCRF) and C2 CBRN Response Element (C2CRE) training, exercises, and evaluations in accordance with the Joint Mission Essential Task List. Joint training plans, schedules, and training records are maintained in the Joint Training Management Information System (JTIMS).

8.9. Vehicle Operation Training. Operators of government motor vehicles and material handling equipment must have a government driver's license and appropriate certification in accordance with AFI 24-301, *Ground Transportation*.

8.10. Weapons Training. AFRAT personnel follow the weapons qualification training requirements outlined in AFI 36-2654, *Combat Arms Program*, and AFMAN 36-2655, *USAF Small Arms and Light Weapons Qualification Programs*, for Arming Group C. Theater combatant commands may impose additional or more stringent requirements, which are generally specified in the operation's execution order or reporting instructions. See the AFMS Arming Requirements document (also known as the Weapons and Munitions Forecasting Table) for weapons authorizations for AFRAT UTCs. This document is available on the ACC/SG MEFPK Playbook (<https://usaf.dps.mil/sites/12173/SitePages/Playbooks.aspx>) or by request from the ACC Ground Medical UTC Management Branch.

8.11. Communications and Information Systems Training. AFRAT personnel should be trained in the proper use of the communications and information systems included in their equipment packages.

Chapter 9

LOGISTICS

9.1. Expeditionary Medical Logistics (EML) System. The EML system provides global support and sustainment to air expeditionary force medical forces across the full spectrum of operations. The EML system uses a pull process for resupply and a repair-and-return process for medical equipment maintenance to minimize inventory and airlift requirements. Each combatant command has a supporting Theater Lead Agent for Medical Materiel (TLAMM). The TLAMM serves as a major theater medical distribution node and becomes the deployed unit's primary point of contact for materiel and equipment support in theater. For early phase operations and emergency situations in which a TLAMM is not able to provide support, the Air Force Forces Surgeon (AFFOR/SG) staff in coordination with the Air Force Medical Logistics Operations Center (AFMLOC) usually designate a sustaining base to provide reachback support. Upon notification of activation, the AFRAT chief or logistics lead should contact the AFMLOC for guidance on the appropriate theater supply chain and points of contact. See Department of the Air Force Tactics, Techniques, and Procedures (DAFTTP) 3-42.8, *Expeditionary Medical Logistics (EML) System*, for more information on medical logistics support capabilities, infrastructure, and supply chain management.

9.2. Supplies and Equipment. Most expeditionary medical equipment based in the continental United States is managed and deployed through designated consolidated storage and deployment centers (CSDCs). Equipment UTCs may also be pre-positioned in theater based on requirements from geographic combatant commanders and the COMAFFOR. Initial deployments include 72 hours of supplies packaged in hand-portable backpacks. The full AFRAT deploys with 30 days of supplies (the initial 72-hour incident response package plus three sustainment packages). UTC team chiefs should be aware of the contents of their equipment packages before deployment and should contact their medical logistics office for assistance with reviewing their allowance standards. At the deployed location, UTC team chiefs coordinate subsequent resupply through their medical logistics function. **Table 9.1** lists the allowance standard for each AFRAT equipment package.

Table 9.1. AFRAT Equipment Allowance Standards.

UTC	Title	Allowance Standard
FFRN1	Rad/Nuc Incident Response Team	902H
FFRNB	Rad/Nuc Laboratory Equipment	902N
FFRNC	Rad/Nuc Dosimetry Equipment	902P
FFRND	Rad/Nuc Surveillance Equipment	902L
FFRN9	Rad/Nuc Response Liaison Team	902G

9.3. Medical Equipment Maintenance and Repair. USAFSAM provides routine calibration and maintenance of the AFRAT's specialized radiation instrumentation and war reserve materiel. In a deployed setting, the USAFSAM Radiation Calibration Laboratory (USAFSAM/OEAR) provides reachback support for calibration and repair of equipment. When deployed, the biomedical equipment repair technician assigned to the Tactical C2 Support Team (FFRN8) provides routine maintenance and repair of medical equipment at the deployed location.

9.4. Equipment Upgrades and Modernization. Changes to the AFRAT assemblage may result from technology advances and lessons learned feedback. MRAs typically budget and plan for major equipment reviews every five years.

SHARON R. BANNISTER
Major General, USAF, DC
Director, Medical Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

10 CFR 20.1906, *Procedures for Receiving and Opening Packages*, current edition

10 CFR 71.5, *Transportation of Licensed Material*, current edition

49 CFR 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans*, current edition

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Planning Guidance for Response to a Nuclear Detonation, Homeland Security Council Interagency Policy Coordination Subcommittee for Preparedness and Response to Radiological and Nuclear Threats, 16 Jan 2009

War and Mobilization Plan, Volume 1 (WMP-1), Enclosure F, Air Force Medical Service (AFMS) Supplement, July 2019

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

AF—Air Force

AFB—Air Force Base

AFFOR—Air Force Forces

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMLOC—Air Force Medical Logistics Operations Center

AFMS—Air Force Medical Service

AFPAM—Air Force Pamphlet

AFRAT—Air Force Radiation Assessment Team

AFSC—Air Force Specialty Code

AFTTP—Air Force Tactics, Techniques, and Procedures

ANG—Air National Guard

ARRT—Applied Radiological Response Techniques

ASRM—Air Sampling for Radioactive Material

B/IRNT—Basic Intermediate Radiological Nuclear Training

BEAR—Basic Expeditionary Airfield Resources

BOS—Base Operating Support

C2—Command and Control

C2CRE—Command and Control CBRN Response Element
CBIRF—Chemical Biological Incident Response Force
CBRN—Chemical, Biological, Radiological, and Nuclear
CFR—Code of Federal Regulations
CMAT—Consequence Management Advisory Team
CMRP—Comprehensive Medical Readiness Program
COMAFFOR—Commander, Air Force Forces
COMPUSEC—Computer Security
CSDC—Consolidated Storage and Deployment Center
DAFI—Department of the Air Force Instruction
DAFMAN—Department of the Air Force Manual
DAFTTP—Department of the Air Force Tactics, Techniques, and Procedures
DCRF—Defense CBRN Response Force
DOD—Department of Defense
DODM—Department of Defense Manual
DRRS—Defense Readiness Reporting System
DSCA—Defense Support of Civil Authorities
DSN—Defense Switched Network
DTR—Defense Transportation Regulation
ECS—Expeditionary Combat Support
ECU—Environmental Control Unit
EML—Expeditionary Medical Logistics
FIDLER—Field Instrument for Detection of Low Energy Radiation
HPAC—Hazard Prediction and Assessment Capability
HPGe—High Purity Germanium
JP—Joint Publication
JTIMS—Joint Training Management Information System
JTRS—Joint Tactical Radio System
MARSSIM—Multi-Agency Radiation Survey and Site Investigation Manual
MEFPAK—Manpower and Equipment Force Packaging
MEIR—Medical Effects of Ionizing Radiation
METL—Mission Essential Task List

MRA—MEFPAK Responsible Agency
MRAT—Medical Radiobiology Advisory Team
MRDSS—Medical Readiness Decision Support System
NaI—Sodium Iodide
NCOIC—Non-Commissioned Officer in Charge
NDT—Nuclear Disablement Team
NETOPS—Nuclear Emergency Team Operations (course)
NIPRNET—Non-classified Internet Protocol Router Network
NVLAP—National Voluntary Laboratory Accreditation Program
NWIRT—Nuclear Weapons Incident Response Training
NWOC—Nuclear Weapons Orientation Course
OPR—Office of Primary Responsibility
OPREP—Operational Reporting
OPSEC—Operations Security
PAM—Preventive and Aerospace Medicine
Rad/Nuc—Radiological and Nuclear
RAMT—Radiological Advisory Medical Team
SDC—Standard Desktop Configuration
SEI—Special Experience Identifier
SG—Surgeon
SIPRNET—SECRET Internet Protocol Router Network
STE—Secure Telephone Equipment
TCP—Transmission Control Protocol
TFOPS—Task Force Operations
TLAMM—Theater Lead Agent for Medical Materiel
TMIP—Theater Medical Information Program
TS/SCI—Top Secret Sensitive Compartmented Information
UDP—User Datagram Protocol
USAF—United States Air Force
USAFSAM—United States Air Force School of Aerospace Medicine
UTC—Unit Type Code
WMP—War and Mobilization Plan

EXPEDITIONARY COMBAT SUPPORT REQUIREMENTS

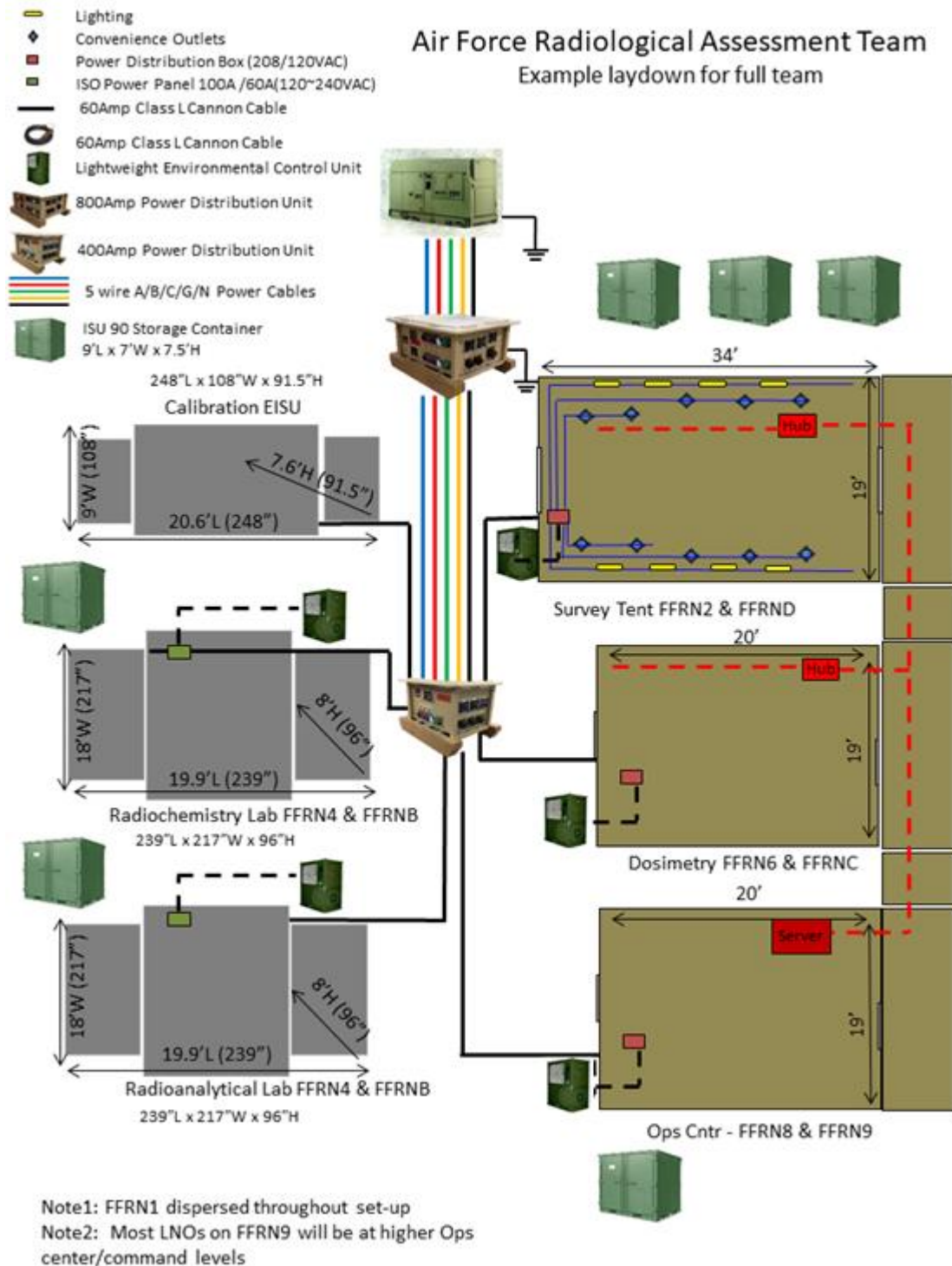
AFRAT Expeditionary Combat Support Requirements										
Calculations are in accordance with AFPAM 10-219, Vols 5 & 6, where applicable unless otherwise specified.										
	FFRN1	FFRN2	FFRN4	FFRN6	FFRN8	FFRN9	FFRND	FFRNB	FFRNC	
MOVEMENT REQUIREMENTS										
Calculations are in accordance with AFPAM 10-1403 and DTR 4500.9-R Part III.										
Pallets (#)							3	4	2	
C-130 (# aircraft)							1	1	1	
C-17 (# aircraft)							1	1	1	
C-5 (# aircraft)							1	1	1	
M871 (# flatbed semitrailers)							1	1	1	
M872 (# flatbed semitrailers)							1	1	1	
SITE PREPARATION										
Square Footage (slight grade required)							2,100	4,200	4,200	
Tents (#)							1	1	1	
ECUs (# units)							1	1	1	
Note: Civil engineering maintenance support is required for ECUs and backup generators.										
BASIC EXPEDITIONARY AIRFIELD RESOURCES (BEAR) REQUIREMENTS										
Latrine/Shower (total # people)	12	6	9	3	3	4				
Billeting (# staff)	12	6	9	3	3	4				
Officer (#)	2	0	1	0	0	4				
Enlisted (#)	10	6	8	3	3	0				
Meals (# meals/day, total) (= 3 meals/day)	36	18	27	9	9	12				
Laundry (lbs/week, total) (= 32 lbs/person/week)	384	192	288	96	96	128				
Ice (lbs/day, total) (= 4.4 lbs/person/day)	52.8	26.4	39.6	13.2	13.2	17.6				
Potable Water (gal/day) (= # staff x 10 gal/day)	120	60	90	30	30	40				
Power (kW)										
MEDICAL/BIOHAZARD WASTE MANAGEMENT										
Liquid (gal/day), total (= 0.7 x potable water rate)	84	42	63	21	21	28				
Solid (lbs/day, total) (= 4 lbs x # people)	48	24	36	12	12	16				
LOGISTICS REQUIREMENTS										
Petroleum, Oil, Lubricants										
Diesel Fuel Consumption (gal/day) (= 8.33 gal/hr x 24 hrs)							75	75	75	

Unleaded Fuel Consumption (gal/day) (10kW backup generator)							20	20	20
Vehicles									
Transportation Requirements	UFMBJ: 4, 4x4 Pickup Trucks	UFMBJ: 3, 4x4 Pickup Trucks	UFMBJ: 2, 4x4 Pickup Trucks	UFMBJ: 1, 4x4 Pickup Truck	UFMBJ: 1, 4x4 Pickup Truck	UFMBJ: 1, 4x4 Pickup Truck			
Materiel Handling Equipment							10K forklift Flatbed truck	10K forklift Flatbed truck	10K forklift Flatbed truck
Vehicle Maintenance Support	Required								
COMMUNICATIONS AND INFORMATION SYSTEMS									
Organic Equipment									
Satellite/Telemedicine (#)	0	0	0	0	0	0	0	0	0
Land Mobile Radios (#)	10	0	0	0	0	0	4	0	4
Secure Telephone Equipment (STE) (#)	0	0	0	0	0	0	0	0	0
Laptop (#)	6	0	0	0	0	0	2	6	4
Printers (#)	0	0	0	0	0	0	0	0	0
Server Suite (#)	0	0	0	0	0	0	0	0	0
Base Communications Support Requirements									
Phone (#)	4	1	1	1	1	1			
Controlled Cryptographic Items/STE Cards (#)	1	1	1	1	1	1			
NIPRNET Access	1 Cat 6E drop required								
SIPRNET Access	Required								
Computer Configuration									
Operating System/Office Suite	DOD SDC								
RAM/Hard Drive	Enterprise Hardware Standard								
Clinical Applications	TMIP								
Required Port Number/Protocol Access (TCP/UDP)	21/TCP; 443/TCP; 8080/TCP								
CHAPLAINCY SERVICE SUPPORT									
	Required for all modules								
SECURITY FORCES SUPPORT									
	Required for all modules not co-located on Air Base								

Attachment 3

FULL AFRAT LAYOUT

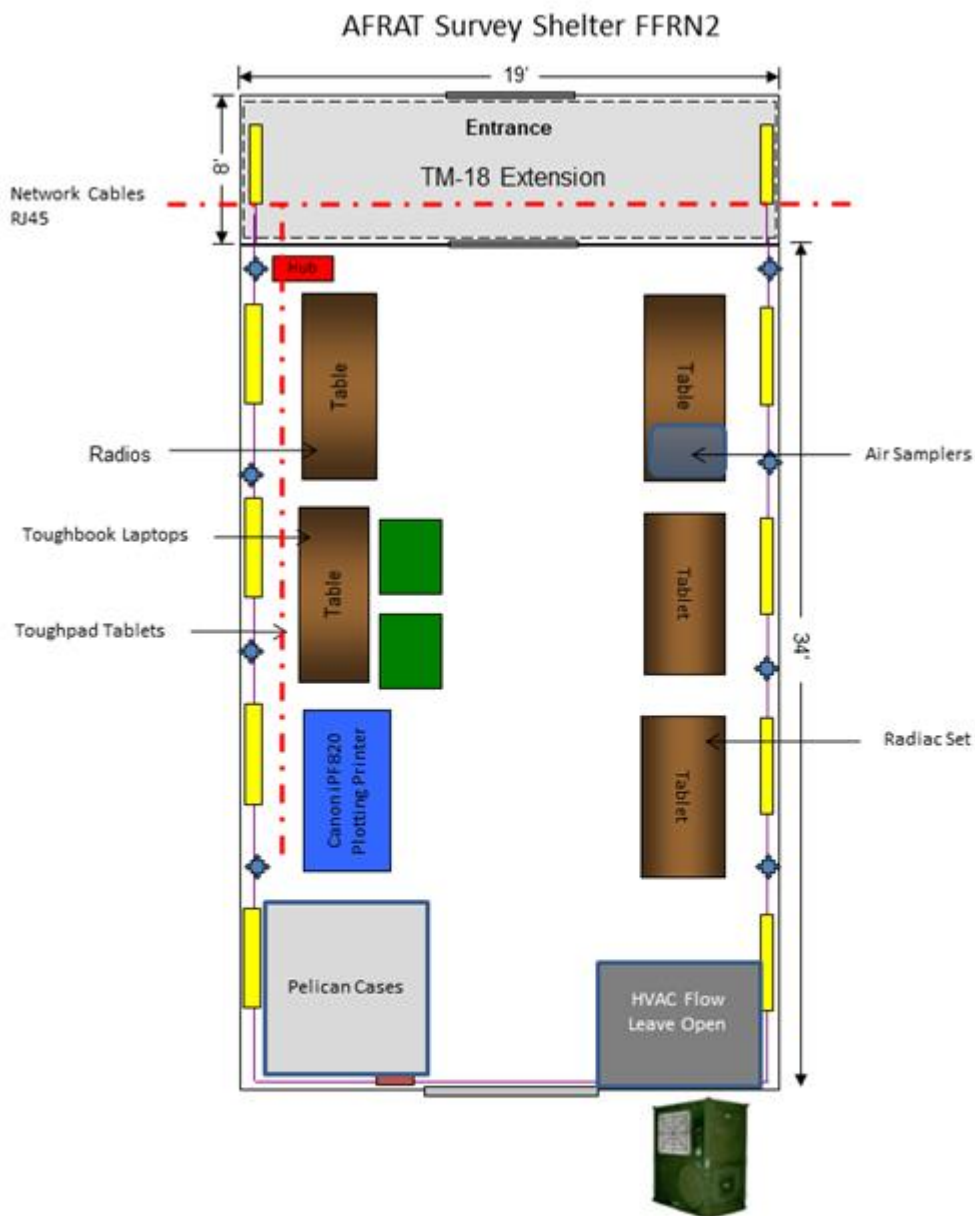
Figure A3.1. AFRAT Site Layout Diagram.



Attachment 4

AFRAT SURVEILLANCE TEAM (FFRN2) SHELTER

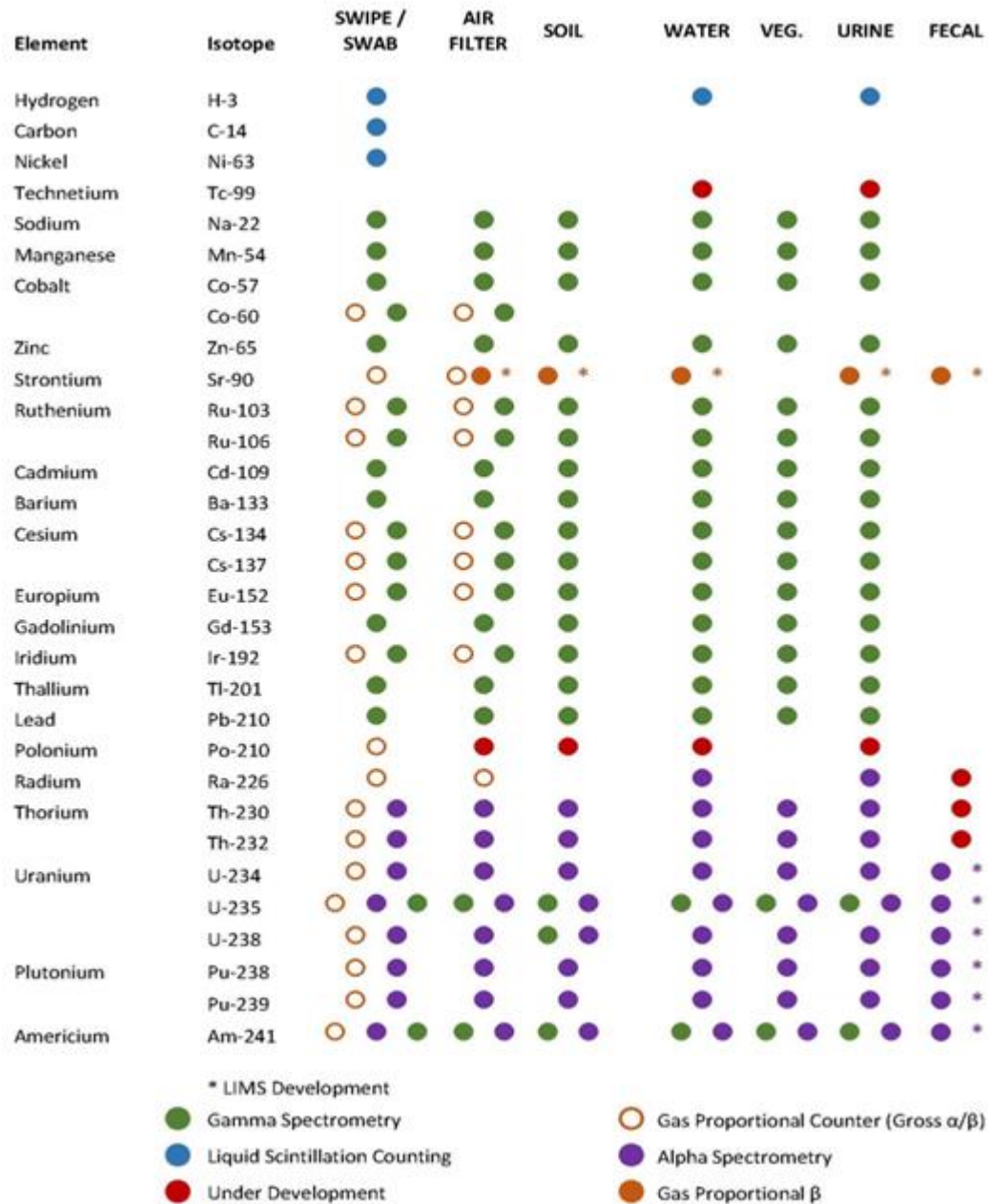
Figure A4.1. AFRAT Surveillance Team Shelter Layout.



Attachment 5

USAFSAM RADIOANALYTICAL REACHBACK SUPPORT CAPABILITIES

Figure A5.1. USAFSAM Radioanalytical Support.



Note: Additional reachback support is available with coordination with the USAFSAM Radioanalytical Laboratory.