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RADAR, AIRFIELD, AND WEATHER SYSTEMS

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This Department of the Air Force Manual (DAFMAN) implements Air Force Policy Directive (AFPD) 13-2, *Air Traffic Control, Airfield, Airspace and Range Management*. This manual applies to Department of the Air Force (DAF) civilian employees and uniformed members of the Regular Air Force (RegAF), United States Space Force (USSF), Air Force Reserve (AFR), Air National Guard (ANG), and those with a contractual obligation to abide by the terms of DAF issuances except where noted otherwise, who operate or administer functions and facilities for Radar, Airfield and Weather Systems (RAWS). At joint, shared-use, or foreign airfields, this manual applies to the facilities controlled and used exclusively by the Department of the Air Force, as outlined in international agreements, real estate documents or other written agreements. This manual outlines key duties and responsibilities of RAWS personnel. This manual also provides detailed guidance, procedures, and programs for managing RAWS where the United States Air Force (USAF) has functional oversight responsibility. This manual may be supplemented at any level; however, all Major Command (MAJCOM) supplements to include interim changes to previously approved supplements must be routed to Air Force Flight Standards Agency, Airfield Operations Division (AFFSA/XA) for coordination prior to certification and approval. References to MAJCOM within this publication refer to the MAJCOM Office of Primary Responsibility (OPR) for Airfield Operations. Unit (wing/delta or base) level supplements to this publication must be routed to the responsible MAJCOM OPR for Airfield Operations for coordination prior to certification and approval. The authorities to waive requirements in this publication are identified with a tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See DAFMAN 90-161, *Publishing Processes and Procedures,* for a description of the authorities associated with the

tier numbers. Submit requests for waivers through the chain of command to the appropriate tier waiver approval authority, or alternately, to the squadron commander for non-tiered compliance items or requirements. Refer to **Chapter 1** for additional waiver requirements to this manual. Refer recommended changes and questions about this publication to the OPR using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. Ensure 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 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 Department of the Air Force. Compliance with attachments is mandatory.

SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed. Major changes include: (1) Quality Assurance (QA) Evaluator position and duty requirements clarification, (2) 1C8X3 training program standardization, (3) updated references and terminologies, and the (4) clarification of MAJCOM and work center roles/responsibilities.

Chapter 1

GENERAL

1.1. Overview. This manual provides specialized and technical language and is intended for use by personnel who manage and/or maintain Air Force RAWS personnel, equipment, and facilities. AFMAN 13-204, Volume 1, *Management of Airfield Operations*, complements this publication. **Note:** AFMAN 13-204 Volumes 1-3 are in rewrite and upon publication will be DAFMANs.

1.2. The Military and Civilian Aviation Integration Division. The Military and Civilian Aviation Integration Division, Career Field Management, is responsible for Air Force Specialty Codes (AFSCs) 13MX, Airfield Operations (AO) officer; 1C1X1, Air Traffic Control (ATC); 1C7X1, Airfield Management (AM), and 1C8X3, RAWS. Career Field Managers (CFMs) will execute duties In Accordance With (IAW) AFMAN 36-2100, *Military Utilization and Classification*, Department of the Air Force Instruction (DAFI) 36-2670, *Total Force Development*, and AFI 38-101, *Manpower and Organization*. This list is not all inclusive.

1.3. Air Force Flight Standards Agency. Air Force Flight Standards Agency (AFFSA) is responsible for terminal area AO (e.g., ATC, AM and RAWS) matters. In this capacity, AFFSA executes responsibilities as outlined in Air Force Mission Directive (AFMD) 27, *Air Force Flight Standards Agency (AFFSA)*, in keeping with policy guidance provided by the Secretary of the Air Force. For the purpose of addressing specific procedural, training, standardization, architecture, and integration issues directly related to airfield operations, AFFSA may have cause to interact with MAJCOMs, interagency (in particular the Federal Aviation Administration (FAA)), and sister services.

1.4. Operations at Contingency Locations. Contingency is defined as a situation requiring military operations in response to natural disasters, terrorists, subversives, or as otherwise directed by appropriate authority to protect United States interests. At contingency locations, outside the United States, the Senior Airfield Authority (SAA) may waive airfield operations procedures outlined in this manual to support tactical or combat operations. This authority must not be exercised below the SAA level. **(T-1)** Prior to issuance of such a waiver, the SAA must ensure the following actions are completed:

1.4.1. Conduct a risk management assessment with the rationale for the waiver and explain (1) how complying with the requirement/compliance item impacts mission accomplishment, OR (2) cost of compliance (training, funds, equipment, facilities, guidance or manpower) creates unacceptable risk to a higher priority task; OR (3) the expected cost of compliance outweighs the benefit; OR (4) an explanation that personnel cannot comply with the requirement due to a lack of resources (training, funds, equipment, facilities, guidance or manpower). **Note:** SAA waiver period must not exceed requested waiver period or 30 calendar days after the approving commander's deployment length, whichever is shorter. **(T-1)** Because these contingency waivers are the expression of a specific commander's risk acceptance, approved waivers automatically expire 30 calendar days after a change in commander, unless the new commander renews the waiver.

1.4.2. Forward proposed waivers to the Air Force forces staff or equivalent for an operational review if time permits, or at the discretion of the SAA.

1.4.3. Refer to Air Force Tactics, Techniques, and Procedures (AFTTP) 3-4.13, Volume 2, *Contingency Airfield Operations* for additional information. This AFTTP outlines how Air Force personnel open and operate a deployed or contingency airfield. This AFTTP volume also contains planning considerations for AM, ATC, and Deployable Air Traffic Control and Landing Systems (DATCALS) capabilities, procedures, forces, and equipment.

1.5. Disaster Mitigation and Response. Quick reaction checklists are available on the Air Force Flight Standards Agency, RAWS Operations, Procedures, and Training (AFFSA XAR) SharePoint®. Their use is highly encouraged when impending events have potential to damage RAWS equipment or facilities, or once a disaster has occurred.

1.6. Airfields Operated Pursuant to Contract. This manual also applies to locations where Department of Defense (DoD) or Air Force access is pursuant to contract, to the extent specifically outlined in the contract Statement of Work (SOW) and/or Performance Work Statement (PWS). Locations unable to comply with these criteria due to pre-existing SOWs are exempt until such time that the current contract expires. Locations that intend to exclude the requirements of this manual will specifically state rationale for the exclusion in the SOW. **(T-2)**

1.7. Foreign Locations. Any host nation procedures, or procedures based on otherwise inapplicable international regulations that are being implemented to fulfill basing or similar agreements should be implemented consistent with this manual to the extent possible. While agreed practices adopted for Air Force use in foreign areas take precedence, every effort should be made to conform to this manual.

1.7.1. MAJCOMs must identify any special procedures agreed upon with host nations in their supplement to this manual. Special consideration should be given to support and sustainment funding of equipment installed within foreign-controlled locations and agreed upon within a MAJCOM-funded support plan prior to installation. Refer conflicting procedures to AFFSA/XA prior to implementation.

1.7.2. Airfield operations personnel augmenting a facility operated by another branch of the US military will comply with their regulations and procedures as applicable. **(T-0)**

1.8. Waivers.

1.8.1. Units will use the DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval* to process waivers to this manual. **(T-1) Note:** ANG units will comply with ANGMAN 90-161, *Management of Air National Guard Waivers.* **(T-1)**

1.8.2. Unit waiver request must include the following:

1.8.2.1. A paragraph reference or text of the specific requirement for which the commander/director is requesting a waiver. **(T-1)**

1.8.2.2. Rationale for the waiver. **(T-1)** Explain which one of the following reasons apply and explain: (1) How complying with the requirement/compliance item impacts mission accomplishment; (2) why the cost of compliance (training, funds, equipment, facilities, guidance or manpower) creates unacceptable risk to a higher priority task; or (3) the expected cost of compliance outweighs the benefit; or (4) why personnel cannot comply with the requirement due to a lack of resources (training, funds, equipment, facilities, guidance or manpower).

1.8.2.3. Time period or circumstance the waiver is needed. **(T-1) Note:** Tier 1, 2, and 3 waivers may be approved for a period not to exceed the requested waiver period or 90 calendar days after the approving commander's tour length, whichever is shorter. Because these tier waivers are the expression of a specific commander's risk acceptance, approved waivers automatically expire 90 calendar days after a change in commander unless the new commander renews the waiver.

1.8.2.4. Risk mitigation measures to be implemented, if necessary, by the requesting commander during the waiver period. **(T-1)**

1.8.2.5. Impact if waiver is disapproved. **(T-1)**

1.8.3. Submit supporting data or documentation (i.e., letters of procedure, airspace maps, traffic patterns, airfield diagrams, etc.) to substantiate the waiver request.

1.8.4. Units must provide an informational copy of all approved waivers to MAJCOM OPR for AO. **(T-2)**

1.8.5. Units will submit waivers to applicable FAA publications through their respective commander for coordination from the MAJCOM OPR for AO, AFFSA/XA and the appropriate Air Force Representative (AFREP). **(T-0)** The AFREP submits the request to FAA and notifies the requesting unit, MAJCOM OPR for airfield operations, and AFFSA/XA of the results.

1.8.6. The requestor's unit commander must forward a copy of the approved waiver to the AFFSA/XA workflow at **hqaffsa.xa@us.af.mil** within 30 calendar days of approval for situational awareness and process improvement considerations. **(T-1)**

1.8.7. Approved waivers become part of the approvers and requestor's official records and are appropriately filed IAW AFI 33-322.

1.9. Governing Directives. Airfield operations services are governed by DAFIs, DAFMANs, FAA orders (to the extent applicable), parts of the Code of Federal Regulations, and any host nation procedures which have been adopted for Air Force use; unless specifically exempted or waived. Unit commanders may contact AFFSA through their respective MAJCOM OPR for assistance in determining the applicability of directives.

1.10. Issuing New Air Force Airfield Operations Policy or Procedures. New policies or procedures are sent out via message and posted on the AFFSA Airfield Operations SharePoint® website. Airfield operations staff personnel are required to utilize the AFFSA Airfield Operations SharePoint® website to download and/or view messages.

1.11. Maintenance Principles.

1.11.1. The primary objective of maintenance is to ensure continued operational availability of systems and equipment used in support of the Air Force assigned operational mission. A key factor in achieving this objective is maintenance discipline. Maintenance discipline involves integrity and the employment of required skills in all aspects of the maintenance process. It is the responsibility of all personnel to comply with all written guidance and verbal instruction to ensure required repairs, inspections and documentation are completed in a safe, timely, and effective manner.

1.11.2. Traditional maintenance concepts should adapt in-conjunction the ever-evolving technological environment. The depth and breadth of the concepts varies throughout the

maintenance environment. In most cases, the older systems are more labor intensive to sustain, when compared to newer systems sustained under the Line Replaceable Unit (LRU) concept. Maintenance personnel should strive to maintain their skillset and remain adaptable as the enterprise advances.

1.11.3. Readiness requirements may cause deferment of essential maintenance or training. Failure to recognize and support valid requirements may cause maintenance backlogs or mission failure. Managers will ensure every action is taken to make systems available for required maintenance actions and ensure maintenance is completed to meet mission requirements. **(T-2)**

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. AFFSA. Establishes Air Force policies and guidance in specific 1C8 maintenance management, logistics and sustainment related areas. In pursuit of this, AFFSA will:

2.1.1. Serve as Lead Agent for centrally managed Air Traffic Control and Landing Systems (ATCALS). Work with the ATCALS Program Management Office (PMO) to resolve issues as they arise. Recommend priority of work from a safety of flight perspective and track workload to completion.

2.1.2. Review waiver requests to this DAFMAN and recommend appropriate actions.

2.1.3. Develop and review Self-Assessment Communicators (SACs) for this DAFMAN.

2.1.4. As requested, augment inspections for MAJCOM, Field Operating Agency (FOA), or Direct Reporting Unit (DRU) Inspector General (IG).

2.1.5. Provide support, technical assistance, training, and emergency on-site assistance for ATCALS outages. Coordinate restoral efforts if assistance is required (e.g., FAA second-level engineering). AFFSA is the approval authority for all requests for on-site second-level assistance.

2.1.5.1. Provide technical assistance, training, and emergency on-site assistance. Response to an on-site assistance request from the unit will be as soon as possible after request received.

2.1.5.2. Respond to and prioritize requests (based on mission impact, budget, and manning constraints) for on-site support. Owning units will request support via their respective MAJCOM, FOA, or DRU.

2.1.5.3. Notify the corresponding MAJCOM, FOA, or DRU when a technician responds to an on-site emergency assistance request.

2.1.5.4. Provide on-site outage response when outages exceed field technicians' abilities.

2.1.5.5. Provide training support on-site as requested.

2.1.5.6. Provide Subject Matter Experts (SMEs) for analysis of complex problems, flight inspection failures, and engineering requests.

2.1.5.7. Assist units with commissioning activities for new/relocated facilities. Duties may include coordination of geodetic survey, performing system performance analysis/optimization for mission requirements, planning, and executing formal flight inspection, and documentation of results.

2.1.5.8. Perform baseline/periodic evaluations to define the operational capabilities and limitations of a facility and provide recommendations for optimum performance consistent with its assigned mission and operating environment. Based on historical data, these evaluations should be repeated every seven years or if there is a significant change in siting conditions, equipment configurations, assigned airspace, etc. Out-of-cycle requests will be forwarded through MAJCOM, FOA, or DRU.

2.1.5.9. Re-optimize systems following changes to the system, environment, or mission (e.g., new construction, changes to assigned airspace).

2.1.5.10. Provide pre-construction analysis of potential impacts related to construction of new buildings, solar farms, and wind turbines IAW DAFMAN 13-201, *Airspace Management*. Assist units with post-construction mitigation to reduce or eliminate impacts.

2.1.5.11. Monitor the FAA Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) database for wind turbine projects in the vicinity of the National Airspace (NAS) terminal radars. Provide a representative to Air Staff Encroachment Management Working Group (EMWG)/Mitigation Response Team (MRT) IAW AFI 90-2001, *Mission Sustainment.*

2.1.6. Units requiring assistance for non-ATCALS/DATCALS systems, command-unique, or cross-utilized end items will contact their respective MAJCOM Functional Manager (MFM).

2.1.7. Units requiring Next Generation Radar (NEXRAD) assistance contact the Radar Operations Center (ROC). See **Attachment 6** for contact information.

2.2. MAJCOM, FOA, or DRU. MAJCOM, FOA, or DRU will implement the following guidance for their activities that perform RAWS maintenance functions. Regardless of size and type of organizational structure, the functions and duties outlined in this manual are the minimum mandatory requirements necessary to ensure effective, quality maintenance is performed. The MAJCOM, FOA, and DRU representative will:

2.2.1. Forward validated waiver requests to this manual to AFFSA/XA.

2.2.2. Concentrate management efforts on the unique needs within the command.

2.2.3. Establish MAJCOM, FOA, and DRU outage reporting instructions (e.g., when to utilize a Critical Outage Report (COR), which systems will require outage reporting, where to send the outage report). COR template is available in **Attachment 7**.

2.2.4. Develop the minimum procedures necessary to accomplish the mission without generating unnecessary workload. Managers at all levels refine and improve these processes to minimize administrative, documentation, and reporting workload.

2.2.5. Serve as command focal point to implement Air Force guidance and directives concerning system modifications; programmed and mobile depot Technical Order (TO) improvements; source, maintenance, and recoverability code change requests; deficiency reports; product improvement reports; Management Internal Control Toolset (MICT) checklists; Air Force Maintenance Special Instructions (AFMSIs); corrosion control; maintenance management directives; and TO 00- series publications.

2.2.6. Provide life cycle logistics support for MAJCOM, FOA, and DRU-acquired Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) systems, and equipment IAW **Chapter 11**.

2.2.7. Manage requests and support for the 1C8 portion of the Air Force Engineering and Technical Services (AFETS) program in conjunction with the MAJCOM, FOA, and DRU OPR.

2.2.8. Perform manpower, staffing, and developmental training actions as MAJCOM, FOA, and DRU-level RAWS functional management IAW the Career Field Education and Training Plan (CFETP) and Air Force Qualification Training Package (AFQTP).

2.2.9. Liaise between work centers and Lead Agency/Lead Command, Air Force Flight Standards Agency, Logistics Management (AFFSA/XLL) at **HQAFFSA.A4L.logSus@us.af.mil** for assistance with Air Force Technical Order (AFTO) Form 227, *C-E Depot Maintenance Requirements and Schedule*, procedures and submissions. **NOTE:** Not applicable to ANG and AFR units. Depot Purchased Equipment Maintenance (DPEM) program is managed at the National Guard Bureau and AFR.

2.2.10. Identify a central Point of Contact (POC) for administrative issues that will support the Regional Maintenance Center (RMC). Work closely with the RMC Superintendent and assigned units to resolve any policy and support issues adversely affecting the mission.

2.2.11. Evaluate and field-test proposed Air Force Maintenance Quality Control Checklists (AFMQCCs) prior to forwarding them to AFFSA/XA.

2.2.12. Provide support to RMC evaluation operations.

2.2.12.1. Respond to RMC site list of prioritized evaluations outlined in **paragraph 6.3.20.1** within 30 days.

2.2.12.2. Establish operations and maintenance POCs between RMC and local unit for coordinating RAWS evaluation matters.

2.2.12.3. Coordinate with each subordinate base to establish evaluation dates that best fit the overall requirements and minimize interference with operations, taking all activities into account (Mobile Depot Maintenance (MDM), runway construction, prevailing weather, exercises, etc.).

2.2.12.4. Utilize TO 00-20-10, *Local Maintenance Support of Regional Maintenance Center (RMC) Operations*, to ensure all corresponding work centers are equipped with proper tools, TOs, test equipment, support, and Personal Protective Equipment (PPE). **Note:** Additional funding and equipment requirements may be requested by the RMC for site evaluations.

2.2.12.5. Maintain contact with units considered for evaluation to ensure problems that would adversely affect the evaluation are considered and promptly reported to the RMC.

2.2.13. Validate and report authorizations and manning numbers to AFFSA/XAR no later than 30 March of each year. **Note:** Manning being identified as all personnel: Active Duty, Guard, Reserve, Civilian, Contractors, etc.

2.2.14. Validate and report equipment accountability to Air Force Flight Standards Agency, System Managers (AFFSA/XLM) no later than 30 March of each year.

2.2.15. Annually validate completion of RAWS Unit Familiarization reviews, ensuring currency of information provided for each applicable unit. RAWS Unit Familiarization forms can be found on the AFFSA/XAR SharePoint®.

2.3. Installation Functional Area Manager. Installation Functional Area Managers (FAMs) will be the most senior ranking 1C8 at an installation and are responsible for training, classification, utilization, mentorship, and career development of all assigned RAWS personnel. **(T-2) Note:** If two or more senior ranking members exist on an installation, the member associated with the Operations Support Squadron (OSS) will be identified as the FAM. Installation Functional Area Managers will:

2.3.1. Execute career field development responsibilities in accordance with DAFI 36-2670 and this manual.

2.3.1.1. Notify MFM of Permanent Change of Station (PCS) and Permanent Change of Assignment (PCA) selection for key duty positions (for example: Stabilized Tours, Manning Point, Special Category, etc.). For vacancy fills not requiring PCS action for a replacement, advise the hiring authority to ensure candidates meet all position requirements (specifically: 1C8X3 Special Experience Identifier (SEI) and Enlisted Development Team (EDT) vector).

2.3.1.2. Review unit manpower document grades to ensure required grades for duties associated with each authorization are correct. Address discrepancies with the MFM.

2.3.1.3. Identify SMEs to the MAJCOMs for Tiger Team support upon request.

2.3.1.4. Maintain regular communications with MAJCOM leads on all functional and personnel issues.

2.3.2. Ensure newly assigned squadron commanders, first sergeants, group/squadron superintendents, and senior enlisted leaders are briefed on 1C8X3 personnel issues, policies, and procedures.

2.3.3. Liaise with other installation FAMs for regionalized support.

2.3.3.1. Identify local joint expertise that aids 1C8 development and mission accomplishment (e.g., Navy unit providing survey training, Army unit providing generator training, etc.).

2.3.3.2. Maintain support partnerships and create continuity for future FAMs.

2.3.4. Facilitate meetings, as needed, between all 1C8 units assigned to the installation.

2.3.4.1. Coordinate training events between RAWS work centers to develop personnel's skills for different missions sets.

2.3.4.2. Ensure best practices and all information pertaining to the career field is distributed to all 1C8X3 personnel assigned to the base (regardless of MAJCOM).

2.4. Unit Commander. The unit commander or equivalent holds command responsibility for maintenance actions and procedures performed on RAWS equipment outlined within this DAFMAN. Only qualified personnel will accomplish inspection, preventive maintenance, servicing, opening, repair, or replacement of RAWS equipment. **(T-1)** The unit commander will:

2.4.1. Establish supply discipline, and financial management practices IAW this DAFMAN. **(T-3)**

2.4.2. Ensure logistics support is available for sustained operations for unit-acquired COTS/ GOTS systems/equipment. **(T-3)**

2.4.3. Fund safety related training, certification, and equipment for RAWS maintenance. **(T-1)** Fund recurring expenses for certifications and equipment replacement. **(T-1)**

2.4.4. Identify personnel required to maintain climbing proficiency and restrict climbing to structures necessary for mission accomplishment IAW DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards*.

2.4.5. Fund in-residence training courses as necessary (e.g., equipment supplemental training, Information Assurance Technician (IAT) Level 2, QA course). **(T-3)**

2.4.6. Appoint separate RAWS personnel to serve in the following positions IAW their roles and responsibilities:

2.4.6.1. RAWS Training Non-Commissioned Officer In Charge (NCOIC).

2.4.6.2. Production Control NCOIC.

2.4.6.3. QA Evaluator.

2.4.7. Designate in writing a minimum of two technicians (5-skill level minimum) to support RMC operations where regionally maintained equipment exists. **(T-3)**

2.4.7.1. Air Force Flight Standards Agency, ATCALS Maintenance (AFFSA/XM) will host an appointment letter template and repository on their SharePoint ®.

2.4.7.2. Unit will ensure an up-to-date letter is maintained within the repository. **(T-3)**

2.4.7.3. Technicians will complete applicable training tasks within 3 months of their appointment. **(T-3)**

2.4.8. Ensure RAWS technicians are not appointed to unit level duties prior to the successful completion of an initial Individual Personnel Evaluation. **(T-2)** Technicians being considered for unit level roles should have accomplished the first two phases of the work center's training plan outlined in **Chapter 9.**

2.4.9. Establish a support agreement IAW DoDI 4000.19, *Support Agreements,* with the host base agency responsible for identifying and maintaining all mission critical circuits. It is imperative that Defense Information Systems Agency scheduled interruptions, or loss of service be reported to the unit responsible for RAWS maintenance immediately. **(T-3)** This process will be identified in the agreement between the responsible agency and the squadron responsible for RAWS maintenance. **(T-3)**

2.4.10. Authorize and validate Basic Allowance for Subsistence (BAS) for RAWS personnel who are required to perform duties frequently at remote locations (off installation) or required to work unusual duty hours, where the use of filing DD Form 1475, *Basic Allowance for Subsistence - Certification,* is impractical. Commanders will validate BAS authorization IAW guidance established in DoD 7000.14-R, Volume 7A, *DoD Financial Management Regulation: Military Pay Policy – Active Duty and Reserve Pay.*

2.5. Flight Commander/Director. Flight commanders/directors will: **Note:** If there is no flight commander/director, the Chief of Maintenance (CoM) will accomplish these duties.

2.5.1. Advise and assist unit leadership, CoM, work center supervisors and technicians in managing and administering maintenance programs.

2.5.2. Control/manage personnel assignment and assigned duty positions within the maintenance activity and advise leadership on manning and skill level statuses.

2.5.3. Oversee flight training procedures IAW AFMAN 13-204, Volume 1.

2.5.4. Manage RAWS funding lines.

2.5.5. Coordinate assistance with SMEs/AFETS.

2.5.5.1. SME/AFETS support is available to assist local RAWS technicians with a variety of maintenance actions and training.

2.5.5.2. Submit requests for assistance from these activities according to command directives.

2.5.6. Verify installation project packages are reviewed for feasibility of installation and continued validity of the requirements. This includes providing tools, test equipment, and support to work teams as required by the installation package or when needed to preclude work stoppages.

2.5.7. Establish a Time Compliance Technical Order (TCTO) control program IAW TO 00-5-15, *Air Force Time Compliance Technical Order Process*.

2.6. Chief of Maintenance. If there is no CoM, the maintenance work center supervisor will accomplish these duties. **Note:** Duty titles may vary based on local organizational structure; reference 1C8X3 CFETP for approved duty titles. CoM will:

2.6.1. Verify an orientation program is established for newly assigned personnel. The orientation program should augment rather than duplicate the unit orientation program. The program will provide a description of the mission(s); description and tour of maintenance staff and maintenance work centers; description of individual duties and responsibilities; local policies (e.g., duty hours, leave, recall, safety, security); and other areas, as appropriate.

2.6.2. Monitor TCTO actions (e.g., ensure the Technical Order Distribution Account (TODA) reviews TO libraries assigned to them for TCTOs monthly, request extensions for any TCTO that will not be completed by rescission date, validate completion documentation).

2.6.3. Establish a process for cannibalization requests IAW TO 00-20-2, *Maintenance Data Documentation*.

2.6.4. Utilize products found on the AFFSA XAR SharePoint® to develop local maintenance procedures and quick reaction checklists, as necessary. This website may be accessed through the RAWS Portal page at **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

2.6.5. Track status of deferred Preventive Maintenance Inspections (PMIs).

2.6.6. Approve or deny PMI cancellation requests.

2.6.7. Ensure personnel complete official data calls and surveys soliciting feedback to improve current training or equipment sustainment issues and track tasking to completion.

2.6.8. Verify work center supervisors have completed AFQTP 1C8X3-201D, *Work Center Managers Handbook*, within 3 months of assumption of duties. Verify personnel have a thorough knowledge of their duties and comply with applicable directives and TOs.

2.6.9. Emphasize standard maintenance practices and enforce risk management to comply with safety standards. **(T-2) Note:** General maintenance practices can be found in TO 31-1-75, *Maintenance Engineering Standard - General Maintenance Practices*.

2.6.10. Ensure scheduled equipment downtime is established in the Airfield Operating Instruction (OI) IAW AFMAN 13-204, Volume 1, or equivalent publication.

2.6.11. If operating in a traditional OSS, serve as a member of the Airfield Operations Board. **(T-3)** Brief RAWS-related agenda items outlined in AFMAN 13-204, Volume 1, as required. **(T-3)**

2.6.12. Coordinate with the Unit Radar Committee chairperson to attend applicable NEXRAD site meetings.

2.7. RAWS Training NCOIC. Develops, implements, and manages the RAWS training program IAW **Chapter 9** of this manual. **Note:** Duty titles may vary based on local organizational structure; reference 1C8X3 CFETP for approved duty titles. Training NCOICs will:

2.7.1. Be appointed by the unit commander.

2.7.2. Possess a minimum primary AFSC at the 7-skill level or civilian equivalent.

2.7.3. Conduct and document an annual review of the Training OI.

2.7.4. Create a Master Training Plan (MTP) containing:

2.7.4.1. Applicable training packages and duty position tasks.

2.7.4.2. A timeline for progression and expectations to reach milestones.

2.7.5. Evaluate competency and track completion of annual reading requirements.

2.7.6. Validate training status codes and SEI requirements for submission to Unit Training Manager.

2.7.7. Participate in Airfield Operations Flight (AOF) Training Review Board (TRB) if operating in a traditional OSS. Brief required agenda items according to AFMAN 13-204, Volume 1.

2.7.8. Identify, track, and coordinate formal training requirements located on the 1C8 MRT Course Vacancies Microsoft Teams® site utilizing the Team Code: breov9v. Formal training allocations will be coordinated through MAJCOM staffs.

2.7.9. Utilize all Air Education and Training Command (AETC) established training products published on the RAWS Training Development and supplement as required. **(T-2)** This website may be accessed through the RAWS Portal page at **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

2.7.10. Verify upgrade training and maintenance On-the-Job Training (OJT) programs are established and effectively managed. **(T-2)**

2.7.11. Conduct monthly training records inspections to ensure accuracy, completeness, and standardization. Units may add local requirements as required. Document completion and results of the monthly training records inspection within the approved Automated Information System (AIS) for training.

2.8. Production Control NCOIC. Develops, implements, and manages the RAWS maintenance data documentation program IAW **Chapter 10** of this manual. **Note:** Duty titles may vary based on local organizational structure; reference 1C8X3 CFETP for approved duty titles. Production Control NCOICs will:

2.8.1. Be appointed by the unit commander.

2.8.2. Coordinate the technical aspects of the production process to include scheduling and distribution of work assignments to technicians, as well as securing and coordinating equipment downtime to achieve the most efficient utilization of resources.

2.8.3. Brief scheduled actions and situations that could adversely impact the mission to the chain of command.

2.8.4. Using local procedures, inform the chain of command of problems beyond the capability to solve at the work center level.

2.8.5. Verify all Maintenance Data Collection (MDC) is accurate and complete.

2.8.5.1. Review all open jobs for accuracy and to ensure the most up-to-date status/information is captured in Integrated Maintenance Data System (IMDS) or other approved maintenance information system.

2.8.5.2. Review the Maintenance Action Review (MAR) Inquiry – screen 100 to validate Job Data Documentation (JDD) weekly. **(T-3)** Review the Open Incident Listing (OIL) to validate Equipment Status Reporting (ESR) weekly against the Documented Maintenance Inquiry (DOM) – screen 380. **(T-3)**

2.8.5.3. Coordinate status changes with all concerned agencies and include start time and Estimated Time of Return to Operation (ETRO) in the job narrative or applicable IMDS field. Update ETROs when the original cannot be met.

2.8.5.4. Direct, document, and control removal/replacement/cannibalization/controlled substitution actions IAW TO 00-20-2. For IMDS documentation details, use Air Force Computer Systems Manual (AFCSM) 21-561, *Maintenance Events Software User Manual* (hosted in IMDS under the "Links" section of the top menu).

2.8.6. Submit a COR utilizing the template prescribed in **Figure A7.1** to the corresponding MAJCOM, FOA, or DRU office and Lead Command/Lead Agent prior to shift change/end of the duty day for all systems listed in **Table A4.1**. **(T-2)** MAJCOM functionals may require a COR for additional systems. These requirements will be outlined in MAJCOM, FOA, and DRU directives.

2.8.7. Conduct and document annual review to ensure the master PMI Listing is up to date and to ensure all scheduled inspection requirements are being met per AFTO, FAA Technical Manual (TM), Commercial Manual, etc.

2.8.8. Complete changes/updates to the master PMI Schedule within IMDS as required.

2.9. Quality Assurance Evaluator.

2.9.1. The unit commander will appoint a minimum of one RAWS technician to serve as the QA evaluator.

2.9.2. All QA evaluators will:

2.9.2.1. Possess a minimum primary AFSC at the 7-skill level or civilian equivalent.

2.9.2.2. Complete Air Force Job Qualification Standard (AFJQS) XXXXX-201G, *Quality Assurance*, within 3 months of assignment (6 months for ANG personnel). This product may be accessed through the RAWS Portal page at **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

2.9.2.3. Complete AFQTP 1C8X3-201D, if not previously completed, within 3 months of assignment (6 months for ANG personnel).

2.9.2.4. Not be assigned to the RAWS maintenance work center.

2.9.3. QA evaluators are encouraged to complete in-residence QA course within 6 months of assignment.

2.9.4. QA evaluators should serve for a maximum of 24 months. Additionally, 24 months should pass before being allowed to serve again as QA evaluator.

2.9.5. QA evaluators may be civilian personnel.

2.9.6. Fixed-Base Unit QA will perform the following functions:

2.9.6.1. Evaluations program IAW **Chapter 7**.

2.9.6.1.1. Hold meetings with the work center at least quarterly. At a minimum, meetings will address scheduled inspections, finalized reports since last meeting, and current deficiencies.

2.9.6.2. Oversee Corrosion Prevention and Control Program (CPCP) IAW **Chapter 15**.

2.9.6.3. Oversee Electrostatic Discharge (ESD) program IAW **Chapter 8**.

2.9.6.4. Conduct and document ESD control surveys. **(T-3)**

2.9.6.5. Technical Order Distribution Office (TODO) duties IAW **Chapter 13**.

2.9.6.6. Oversee Lockout/Tag Out (LOTO) program IAW **Chapter 8**.

2.9.6.7. Evaluate the quality of training and maintenance performed in the maintenance work centers through the use of Personnel Evaluations (PEs) and Equipment Evaluations (EE).

2.9.6.8. Ensure completion of Product Quality Deficiency Reports (PQDRs) IAW TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution (DRI&R).*

2.9.6.9. Perform technical reviews of modification proposals and process valid proposals IAW **Chapter 11**.

2.9.6.10. Validate Local Work Cards (LWCs), when required, IAW **Chapter 13**.

2.9.6.11. Perform and document monthly no-notice inspections on at least one of the following major RAWS program duties on a rotational basis: Work Center Safety, Training, Materiel Management, Technical Orders, Test, Measurement and Diagnostic Equipment (TMDE), Tools, CPCP, ESD, and LOTO. **Note:** This list is not all-inclusive and may be expanded upon by the MAJCOM and/or upon request by the flight commander.

2.9.6.12. Provide direct oversight of discrepancies identified during no-notice inspections of RAWS programs until corrective actions have been completed. Inspection results will be documented and maintained for two years to reflect the applicable program's status, discrepancies, and corrective actions taken. The flight commander will be notified of any discrepancies.

2.9.7. Utilize maintenance data and analysis products to solve problems and improve the maintenance effort.

2.9.8. Oversee and validate MICT checklists as outlined in DAFI 90-302, *The Inspection System of the Department of the Air Force*, as well as MAJCOM, FOA, DRU, or wing/delta guidance. **(T-3)**

2.10. Maintenance Work Center Supervisors. Manages personnel and maintenance shifts within the work center. Duty titles may vary based on local organizational structure, reference 1C8X3 CFETP for approved duty titles. Maintenance Work Center Supervisors will:

2.10.1. Function as the Training NCOIC and/or Production Control NCOIC when personnel are absent or as otherwise needed.

2.10.2. Complete AFQTP 1C8X3-201D within 3 months of assumption of duties. The handbook can be found on the RAWS Training and Development website and may be accessed through the RAWS Portal page at **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

2.10.3. Complete duty position upgrade tasks IAW the MTP.

2.10.4. Correct observed or reported work center training deficiencies. **(T-2)**

2.10.5. Maintain shift continuity by briefing scheduled actions and situations that could adversely impact the work center.

2.10.6. Submit AFTO Form 227 for depot maintenance requests to respective MAJCOM staff. **NOTE:** Not applicable to ANG and AFR units. DPEM program is managed at the National Guard Bureau and AFR.

2.10.7. Identify training, equipment, supply support, vehicle support, additional manpower, or other key elements to execute required tasks.

2.10.8. Be familiar with portions of Operation Plans (OPLANs), Programming Plans (PPLANs) and Program Action Directives (PADs) that task the work center.

2.10.8.1. Conduct a Unit Type Code (UTC) review with the Unit Deployment Manager at least quarterly to ensure RAWS personnel eligible to deploy are postured correctly and meet minimum training requirements. **(T-3)** Request UTC changes to the MAJCOMs as necessary. Use a Memorandum for Record (MFR), log, or electronic equivalent to document review completion. **(T-3)**

2.10.8.2. Ensure serial numbers and equipment data (e.g., Allowance Source Codes are 656 for ATCALS and 786 for Weather equipment) in Defense Property Accountability System (DPAS) and IMDS correspond with the on-hand equipment to ensure all work center supported assets/resources are accurately reported IAW **Chapter 6** of DAFI 21-103, *Equipment Inventory, Status and Utilization Reporting*. **(T-2)**

2.10.9. Provide the work center capabilities to execute required tasks. At a minimum, this will include:

2.10.9.1. Dedicated 4x4 maintenance trucks for transportation of equipment to and from rigorous terrain surrounding airfield, as well as other remote maintenance sites. **(T-3)** These trucks routinely operate in controlled movement areas and should have base station radios installed.

2.10.9.2. An on-call telephone to respond to critical outages.

2.10.9.3. Flight line drivers training IAW DAFI 13-213, *Airfield Driving*, prior to entering aerodrome. **(T-1)**

2.10.9.4. Land mobile radios to maintain two-way communications with ATC. **(T-1)**

2.10.10. Develop duty schedules, to include assignment of standby/on-call responsibilities IAW AFMAN 13-204, Volume 1 para 3.3. to support operations.

2.10.11. Dispatch personnel with the technical data and support items needed to troubleshoot, repair, and restore systems in an expedient manner.

2.10.12. Establish work center's annual budget and spend plan for consideration and approval by unit leadership. **Note:** Supervisors should track expenditures and maintain awareness of the available maintenance funds.

2.10.13. Ensure work center utilizes Program Element Codes (PECs) for their intended purpose: PEC 35111/Weather or PEC 35114/ATCALS. **(T-0)** Each PEC should contain each of the following accounts:

2.10.13.1. Organizational Cost Center Record (OCCR) accounts for budgeted shop use, XB3 purchases, Temporary Duty (TDY)/training expenses, PPE.

2.10.13.2. Project Fund Management Record (PFMR) accounts for centrally managed funds and repair cycle assets (i.e., XD2 items).

2.10.14. Act as POC for depot and maintenance assistance requests IAW TO 00-25-108. **(T-3)**

2.10.15. Annually review all Service Level Agreements, Memorandums of Agreement (MOAs), and/or Memorandums of Understanding (MOUs) with outside organizations, as applicable. **(T-3)** Annual reviews must be documented, and agreements filed according to Air Force Records Information Management System (AFRIMS) and AFI 33-322. **(T-3)**

2.10.16. Read and document completion of required reading documents outlined in **Chapter 4** annually and upon initial assignment or reassignment to a work center.

2.10.17. Fulfill the role of support functions for the regionally maintained equipment as outlined in **Chapter 6**. **(T-3)**

2.10.18. Maintain a work center safety program as outlined in DAFMAN 91-203, DAFI 91-202, *The US Air Force Mishap Prevention Program*, and **Chapter 8** of this DAFMAN. **(T-1)**

2.10.19. Work centers are required to perform TMDE user responsibilities IAW TO 00-20-14, *Air Force Metrology and Calibration Program*. **(T-3)**

2.10.20. Designate in writing 7-level technicians authorized to approve limited calibration of TMDE. **(T-3)**

2.10.21. Access AO products and current messages via the AFFSA/XA SharePoint® website. This website may be accessed at the following link: **https://usaf.dps.mil/sites/affsa/SitePages/Airfield-Operations.aspx**.

2.10.22. Remain current on the RAWS portal page and its updates. This website may be accessed by utilizing the following link: **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

2.10.23. Annually validate inputs made to RAWS Unit Familiarization form and make necessary updates, ensuring currency of information provided. RAWS Unit Familiarization forms can be found on the AFFSA/XAR SharePoint®.

2.10.24. Standardize program duties IAW **Attachment 9**.

Chapter 3

LEAD COMMAND/LEAD AGENT

3.1. Overview. This chapter is meant to provide the field with an understanding of Lead Command/Lead Agent functions for the acquisition and sustainment of RAWS maintained systems. See DAFPD 10-9, *Lead Command/Lead Agent Designation and Responsibilities for United States Air Force Weapon Systems, Non-Weapon Systems, and Activities***,** for the definition and basic functions of a Lead Command/Lead Agent.

3.2. Lead Agent/Lead Command Designations. Below are the primary Lead Command/Lead Agent POCs for centrally managed RAWS equipment.

3.2.1. AFFSA is the lead agent for ATCALS and DATCALS. See AFMD 27, for additional information. The AFFSA System Manager organizational email is **HQAFFSA.A4L.Sys.Mgmt@us.af.mil**.

3.2.2. Air Combat Command (ACC) is the lead command for weather systems. The RAWS ACC organizational email is **acc.a3a0@us.af.mil** and ACC Weather Operations Division email is **accdow@us.af.mil**.

3.2.3. Headquarters Air Force, Weather Operations (HAF/A3W) is the DoD's lead agent for the NEXRAD program.

3.2.4. Space Systems Command is the lead command for applicable space equipment.

3.3. Lead Agent/Lead Command Managers Responsibilities.

3.3.1. Requirements Function:

3.3.1.1. Liaises between the warfighter, the Joint Capabilities Integration, and Development System (JCIDS) community, and the acquisition system during all phases of the program.

3.3.1.2. Advocates for funding and manages POM for assigned PECs.

3.3.1.3. Maintains prioritized program list focused on schedules, costs, and alignment with current National Defense Strategy (NDS).

3.3.1.4. Reviews system capabilities for policy and procedural implications and coordinate legal review during acquisitions process.

3.3.1.5. Provides assistance for adding new capabilities to current systems using 3080 procurement funds.

3.3.2. Sustainment Function:

3.3.2.1. Assists with new system requirements from Lead Command, MAJCOM, FOA, DRU or unit. Coordinate requirements with appropriate agencies, provide a comprehensive recommendation, and forward validated requirement to appropriate office.

3.3.2.2. Provides sustainment support by liaising with maintenance work centers, Program Managers (PMs), MAJCOMs, FOAs, DRUs, the FAA, and other relevant agencies as needed.

3.3.2.3. Maintains a POC list of PMs, MAJCOM, FOA, DRU, maintenance work centers, and other relevant agencies for community use.

3.3.2.4. Provides field support and advocates for system development, sustainment, and logistical support. Researches, develops courses of action, and provide recommendations on life cycle management of fielded systems.

3.3.2.5. Participates in maintenance and logistics community working groups, conferences, and seminars.

3.3.2.6. Conducts data calls related to sustainment support of systems. Draft requests, validates responses, consolidates information, and forwards to original requestor as needed.

3.3.2.7. Maintains familiarity with technological changes, modifications impacting equipment/systems, and disseminates information to relevant agencies.

3.3.2.8. Assists with development of system policy and procedures, inspection checklists, and training products. See **Attachment 4** and **Attachment 5** for a list of AFMQCCs and AFMSIs.

3.3.2.9. Interprets equipment-specific policy and procedures for requesting organizations. Provide change/improvement recommendation to MAJCOM, FOA, DRUs or individual organizations.

3.3.2.10. Assists maintenance work centers in maintaining financial and maintenance accountability for systems by conducting reviews of DPAS, IMDS, and other automated information systems as requested.

3.3.2.11. Coordinates support with lateral agencies (e.g., Lead Command, program office, primary contracting officer, FOAs, 38th Cyberspace Engineering Group, AFETS, and associated system depot offices) for operational issues that affect mission degradation.

3.3.2.12. Coordinates and processes system modification request to PMO per TO 00-5-1, *AF Technical Order System*, and AFI 63-101/20-101, *Integrated Life Cycle Management*.

3.3.2.13. Provides inputs related to sustainment requirements identified in system Life Cycle Management Plans (LCMPs).

3.3.2.14. Provides inputs related to sustainment requirements identified in system or equipment contracts as requested. When requested may also provide source selection recommendation.

3.3.2.15. Assists maintenance work centers with completion of system disposition process and disposition checklist when requested.

3.3.2.16. Reviews Critical Outage Reports (CORs) for opportunities to assist with resolution.

Chapter 4

MAINTENANCE WORK CENTER

4.1. Introduction.

4.1.1. This chapter addresses maintenance work center guidelines, planning, and scheduling; ordering and managing materials; and ensuring maintenance actions are properly documented and tracked from start to finish.

4.1.2. IMDS is the approved maintenance information system for all maintenance activities. The fundamental concepts, duties, and procedures of a maintenance work center are detailed in the following paragraphs.

4.2. Self-Assessment Program.

4.2.1. Work center supervisors oversee the application of MICT checklists per MAJCOM/FOA/DRU/Wing/Delta guidance.

4.2.2. Adhering to the Commander's Inspection Program, work centers will provide necessary documentation to the unit MICT manager.

4.2.3. **Attachment 3** will be used for all equipment inspections.

4.3. Mandatory Annual Reading List.

4.3.1. Upon initial assignment or reassignment and annually thereafter, all RAWS technicians will read and document completion of:

4.3.1.1. DAFMAN 13-204, Volume 4.

4.3.1.2. Applicable MAJCOM, FOA, or DRU supplements to DAFMAN 13-204, Volume 4.

4.3.1.3. The 1C8X3 CFETP.

4.3.1.4. DAFI 21-103.

4.3.2. Upon assignment to a traditional OSS or equivalent, and annually thereafter, all RAWS technicians assigned will also read and document completion of the following:

4.3.2.1. Applicable chapters of AFMAN 13-204, Volumes 1-3. **Note:** AFMAN 13-204 Volumes 1-3 are in rewrite and upon publication will be DAFMANs.

4.3.2.2. TO 00-20-10, if applicable.

4.3.3. Upon award of 7-Level, and annually thereafter, all RAWS technicians will read and document completion of the following:

4.3.3.1. AFMAN 11-225_IP, *United States Standard Flight Inspection Manual* (applicable sections for assigned equipment).

4.3.3.2. TO 31Z3-822-2, *Air Traffic Control and Landing Systems (ATCALS) Site Requirements 404L*.

4.3.4. Additional annual reading suggestions may be found on the RAWS Portal page. This page may be found through the AF Portal page or by utilizing the following link: **https://www.my.af.mil/gcss-af/USAF/site/RAWS**

4.3.5. Upon initial assignment and annually thereafter, all NCOICs will read AFQTP 1C8X3-201D. This will also be required for any Airman or civilian assuming the roles of NCOIC for greater than 3 months, regardless of duty title.

4.4. Site Checks for Equipment Facilities.

4.4.1. All local facilities will be inspected at the beginning and end of the work week.

4.4.2. All remote facilities will be inspected weekly. **Note:** A remote facility is one not located on the assigned installation.

4.4.3. Completed inspections will be recorded in IMDS as a PMI. **Note:** Discrepancies found during site checks will have a separate Job Control Number (JCN) within the sequence assigned IAW TO 00-20-2.

4.4.4. Inspections will consist of:

4.4.4.1. Checking for damage or breaches in security systems (e.g., fences, gates, doors, etc.).

4.4.4.2. Checking facility and antenna sites for vegetation overgrowth and pest infestation.

4.4.4.3. Checking environmental systems for proper operation.

4.4.4.4. Checking condition of shelters/buildings for leaks, damage, and cleanliness.

4.4.4.5. Ensuring required support equipment (e.g., TMDE, cables, connectors, etc.) is properly accounted for, calibrated as required, and stored.

4.4.4.6. Checking systems for faults.

4.5. ATCALS Facility Requirements.

4.5.1. Equipment TOs/TMs may require PMI data record entries by qualified technicians on a recurring basis.

4.5.2. Documentation of the completion of these PMIs or other required performance measurements will meet the ATCALS facility references.

4.5.3. Fully qualified technicians performing PMI procedures will meet all requirements to validate key parameters against the facility references, TO/TM specifications, or AFMSIs.

4.5.4. ATCALS consists of ATC radar, navigational, and air traffic radio, console, and recorder technologies.

4.6. ATCALS Facility Records.

4.6.1. Maintenance work centers will maintain a facility record at each ATCALS facility (may not be applicable to radio sites). This record is a transitory portion of the equipment historical file. The site applicable forms prescribed in TO 31Z3-822-2 and system specific certification forms, when outlined by equipment TOs/TMs, are mandatory and must be completely filled out. **(T-2)** Superseded data will be retained in the work center equipment historical file. The

RMC will maintain facility records for equipment maintained by the RMC. **(T-2)** Electronic facility records are authorized.

4.6.2. Facility record will contain the following information:

4.6.2.1. Tab 1, *Reference Data*. Contains the flight inspection report and all data recorded following the flight inspection. **(T-3)** Each page must be clearly marked at the top, "REFERENCE DATA," with the effective date of the reference data. **(T-3)** When references change as a result of maintenance, parts replacements, etc., make a single line in red pen through the changed item on the original reference data worksheet, annotate the new reference, and add the date the change was made. When the reference values are changed, explain the reason for the change in any of the available remarks blocks.

4.6.2.2. Tab 2, *Preventive Maintenance Inspection*. Contains data recorded during PMIs as required by applicable maintenance TO/TMs. All required blocks on the appropriate forms must be completed. **(T-2)** An explanation is required in the remarks section of the form if required data is not recorded. **(T-2)** The remarks section of the form may be used to document trends identified/adjustments made during PMIs. If adjustments are made during the PMI, the final reading will be recorded. **(T-2)** The most recent piece of certification data will be kept in the facility record and the previous two years of certification data will be maintained in equipment historical records. **(T-2)** For command unique equipment, use local, MAJCOM FOA, or DRU generated forms. **(T-3)**

4.6.2.3. Tab 3, *Periodic Flight Inspection Reports*. Contains the last two periodic flight inspection reports and the FAA Form 8240-22, *Flight Inspection Report* - Facility Data, or electronic 7900-series equivalent (validate accuracy and currency with terminal instrument procedures). **(T-2)**

4.6.2.4. Tab 4, *PMI Ground Check*. Contains data recorded during PMIs to determine radiation characteristics as required by TO/TMs. **(T-3)**

4.6.2.5. Tab 5, *Other Data*. Include pertinent site information not filed elsewhere. **(T-3)** Most recent Base Civil Engineering (BCE) grounding report is required. **(T-3)** Optional items include the most recent: mobile depot maintenance, completed AFMQCCs, RMC trip report, ATCALS Evaluation, AFETS trip report and earth ground check documentation.

4.7. ATCALS Facility Reference Data.

4.7.1. If the facility cannot be returned to the established facility references, but facility performance meets or exceeds TO specifications and can be verified with a ground check, the facility is considered usable. **(T-3)**

4.7.2. Work centers will perform complete data collection and forward existing facility reference data and newly recorded data to the RMC within 5 duty days for analysis. **(T-2)**

4.7.3. The RMC will determine if further adjustments are required, or if a special flight inspection must be accomplished to establish new facility references. **(T-2)**

4.7.4. If proper facility performance cannot be verified with a ground check, work centers will report the facility's condition to the senior ATC supervisor as unusable and request RMC assistance through the MAJCOM, FOA, or DRU. **(T-2)**

4.7.5. All systems subject to FAA flight inspection (e.g., Tactical Air Navigation System (TACAN), Instrument Landing System (ILS), Digital Airport Surveillance Radar (DASR)) will meet inspection requirements prior to being placed into service IAW AFMAN 11-225_IP. **(T-0) Note**: AFMAN 11-225_IP authorizes military installation commanders the final authority and responsibility for Notice to Airmen (NOTAM) issuance and for facility operations of all military facilities which are not part of the NAS. The commander may elect to use "For Military Use Only" facilities found unsatisfactory.

4.8. ATCALS Maintenance Special Considerations for Removing Navigational Aid Identification Signals.

4.8.1. Aircrews are trained to consider the navigation signal unreliable when Identification (ID) is not received or the ID code is "T E S T".

4.8.2. The removal of ID will not be a substitute for NOTAM requirements. **(T-1)** Technician must remove ID or transmit "T E S T" ID when the Navigational Aid (NAVAID) facility is out of service. **(T-1)**

4.8.3. The preferred method is to remove ID when performing maintenance.

4.9. Work Center Functions in Support of Weather Sensors.

4.9.1. Assume maintenance responsibility of Air Force-assigned fixed and/or mobile weather sensors where RAWS technicians organically exist and are capable of traveling to and return by government vehicle within one duty day proximity of their maintenance work center. **Note:** The applicable equipment owner/operator will maintain accountability on a Custodian Inventory Report (CIR) or R14, prior to RAWS personnel assuming maintenance responsibilities.

4.9.1.1. RAWS work centers may assume maintenance responsibility for fixed and/or mobile weather sensors outside of the driving distance described in **paragraph 4.9.1** at the discretion of the unit commander if agreed upon within an established MOA or SOW. Agreements should at a minimum include restoral priority, response time, and responsibilities expected of user and RAWS maintenance activity. Additional consideration should be given to identify training, equipment, supply, transportation, manpower, and any other key elements required to provide support. Servicing work center assuming maintenance responsibility will be the closest work center containing RAWS personnel, unless otherwise stated in an established maintenance agreement.

4.9.1.2. Review and document review of local support agreements annually.

4.9.1.3. Acquisition of locally procured systems require prior coordination and approval from CFM, prior to assumption of maintenance responsibility by a RAWS work center. **(T-2)**

4.9.2. Technicians will maintain an approved IAT Level 2 certification in order to perform system administration functions for fixed and tactical weather sensors that require connection to an Air Force or Army network. **(T-0)**

4.9.3. Perform spectrum management/frequency clearance coordination prior to deployment of mobile sensors. **(T-3)**

4.9.4. Document, maintain, and report system and/or equipment status IAW DAFI 21-103 using IMDS. **(T-2)**

4.9.5. Owning work centers should utilize 35111/Weather PEC to fund repairs. Use of existing warranty contracts, if applicable, must be used prior to executing use of additional funding sources.

4.9.6. Develop and conduct training to system end-users, as needed and upon request, to familiarize operation of the system, to include minimal configuration/maintenance tasks (e.g., system setup, reset, etc.). 334 TRS/RAWS may be utilized, at the direction of CFM, to establish training products to assist in this effort.

4.10. Work Center Functions in Support of Regionally Maintained Equipment. Work centers supporting RMCs must:

4.10.1. Provide a 24-hour POC to the RMC. **(T-3)**

4.10.2. Work directly with the RMC to perform tasks, including the replacement of failed assemblies, IAW TO 00-20-10. **(T-3)**

4.10.3. Respond to outages, after being notified by the RMC, on a 24-hour basis. **(T-3)**

4.10.4. Utilize TOs and work cards to load applicable regionally maintained systems PMIs to the work center's master PMI list in an AIS. **(T-3)** Report required readings to the servicing RMC within 5 duty days for analysis.

4.10.5. Serve as RMC liaison for on-site telephone, status line or modem line problems using local procedures. **(T-3)** Furthermore, coordinate with host base support agencies (e.g., Communication Squadron (CS), BCE, Logistics Readiness Squadron (LRS)) to resolve any issues necessary to facilitate remote monitoring or maintenance for the RMC. **(T-3)**

4.10.6. Work directly with BCE to resolve commercial power or Environmental Control Unit problems (including grounding and lightning protection). **(T-3)** If modification is required, coordinate with the appropriate MAJCOM, FOA, or DRU branch IAW **Chapter 11**.

4.10.7. Provide facility access, flight line communication, qualified flight line driver, local technicians, and local hazard briefing to assist with system maintenance to the RMC technicians when on-site maintenance is performed. **(T-3)**

4.10.8. Perform escort duties and provide facility access for required local support agencies (e.g., BCE, Safety Office). **(T-3)**

4.10.9. Maintain common hand tools, support equipment, and climbing gear to assist RMC technicians IAW TO 00-20-10. **(T-3)**

4.10.10. Maintain accountability for the regionally maintained equipment, to include support equipment, on CIR or R14, as applicable. **(T-3)**

4.10.11. Verify TMDE is properly calibrated, and any limited calibrations meet the system requirements. **(T-3)** For assistance with limited calibration, contact the RMC. **(T-3)**

4.10.12. Perform facility/building manager duties and if repairs are needed, submission of AFTO Form 227 to respective MAJCOM staff. **NOTE:** Not applicable to ANG and AFR units. DPEM program is managed at the National Guard Bureau and AFR.

4.10.13. Perform general housekeeping and corrosion prevention and control duties IAW applicable equipment TOs on regionally maintained systems that do not require powering down of system. **(T-3)** If required to power down system, coordinate actions with servicing RMC. **(T-3)**

4.10.14. Coordinate downtime requests on behalf of the RMC IAW local procedures. **(T-3)** Provide approval confirmation via e-mail to the RMC organizational e-mail account. **(T-3)**

4.10.15. Create/maintain an organizational e-mail account to coordinate official communication between the RMC and local work center.

4.10.16. Load the following AFJQSs for applicable modernized systems to the MTP:

4.10.16.1. 1C8X3-206GB, *Remote/Local ILS Maintenance*.

4.10.16.2. 1C8X3-215QC, *AN/FRN-45C Tactical Air Navigation*.

4.10.16.3. 1C8X3-215QD, *Remote/Local AN/FRN-44A VOR Work Center Maintenance Support*.

4.10.17. Perform only tasks that work center personnel are qualified to perform and only do so when directed by RMC personnel. **(T-3)**

4.10.18. Assist during baseline or special evaluations. **(T-3)** Technicians must be available to work varying shifts and weekends to ensure timely completion of the scheduled evaluation. **(T-3)** The proposed work schedule will be identified in the notification letter provided by the RMC.

4.10.19. Respond to RMC notification letter within 14 days of receipt.

4.11. ATC-Radio Antenna PMIs.

4.11.1. Qualified RAWS technicians will conduct PMIs on all ATC-radio antennas.

4.11.2. Units without the capability or technical experience to perform PMIs will submit an AFTO Form 229, *Engineering Installation Assistance Request*, or request assistance from the local cable and antenna team.

4.11.3. PMIs will be completed IAW governing publications to include: AFMSI 300-1, *Air Force Special Maintenance Instructions for Air Traffic Control Communications Systems*, TO 31R-10-5, *Air Force Communications Command (E-I Standard) - Antenna Systems, Maintenance, Repair and Testing*, TO 31-10-21, *Standard Installation Practices - Air Force Communications Command (E-I Standard) Antenna System Protection, Stepping, and Splicing of Poles*, and applicable commercial manuals. **(T-3)**

4.12. Other Equipment.

4.12.1. Work centers will obtain a local support agreement or SOW before servicing or maintaining equipment that is not listed in their unit's CIRs.

4.12.2. Validate and document support agreement or SOW review annually.

Chapter 5

MOBILITY WORK CENTER

5.1. Introduction.

5.1.1. This chapter addresses maintenance guidelines for work centers supporting a primarily expeditionary mission (e.g., Air Control Squadron, Air Traffic Control Squadron, etc.). Units, regardless of their organizational structure, must follow management policies prescribed within this DAFMAN.

5.1.2. In-garrison maintenance, pre-deployment planning, and pre-deployment preparation are critical to ensuring equipment and personnel readiness when tasked for contingency operations. Maintenance management procedures in a deployed environment must be appropriately scaled to balance maintenance requirements against operational commitments. **(T-3)**

5.1.3. Units with primarily deployable missions will designate a 1C8 Team Lead prior to deployment and support management functions and activities. The appointed 1C8 Team Lead, managing functions specified in the UTC Mission Capability (MISCAP) Statement, will ensure these functions adhere to the principles of a maintenance work center IAW **Chapter 4**.

5.1.4. The deployed CoM or Superintendent is the authority for overall management, while equipment/UTC Team Leads will ensure their personnel comply with established guidance. Deployed maintenance management focuses on delivering the required operational capabilities while limiting operation interruptions.

5.2. Chief of Maintenance. The CoM will plan, organize, staff, direct, and manage the maintenance effort and is responsible to the commander for accomplishing the maintenance mission. The CoM will use the following procedures to achieve the highest level of maintenance effectiveness. As a minimum, the CoM will:

5.2.1. Adhere to duties and responsibilities of a flight commander as outlined in **Chapter 2**.

5.2.2. Manage civil service employees according to Office of Personnel Management and Air Force directives.

5.2.3. Temporarily realign duties to ensure efficient use of assigned manpower.

5.2.4. Create and implement a local maintenance OI.

5.2.5. Review and evaluate maintenance performance and training effectiveness quarterly with the commander, CoM, team chiefs, QA, and maintenance supervisors using the deficiency analysis summary, maintenance training summary, and/or other relevant management products.

5.2.6. Review PE reports that document unsatisfactory task results.

5.2.7. Establish effective training programs in all maintenance work centers, to include but not limited to RAWS, QA/Maintenance Operations Center (MOC), materiel control/supply, and squadron Civil Engineering.

5.2.8. Develop and implement life cycle logistics support plans for unit-acquired COTS systems and equipment.

5.2.9. Establish close working relationships with base support activities.

5.2.10. Provide accurate visibility and documentation of equipment assets in IMDS.

5.2.11. Provide accurate visibility and documentation of personnel upgrade, proficiency, and cross-utilization training in an approved AIS for training.

5.2.12. Provide HAF/MAJCOM/FOA/DRU-level staff with timely and accurate equipment specific and/or personnel issues that can or will be a hindrance to the unit's mission. **(T-2)** Coordinate actions that impact airfield operations with the local SAA, Air Operations Flight Commander, Air Traffic Manager, or equivalent level of authority.

5.3. Quality Assurance.

5.3.1. QA provides the oversight, evaluation and compliance of maintenance programs and equipment. QA will provide status of the program to the CoM. The QA work center's purpose is to (1) identify any area, program of equipment/system that is not compliant with standards; (2) identify the deficiency, root cause and possible solutions; (3) analyze to determine if there are trends and provide a comprehensive report to all levels of management; (4) identify any area, program or equipment/system that is exceeding standards, benchmark them and report to all levels of management. The CoM actively manages the QA work center/programs. As a minimum, the QA work center will:

5.3.1.1. Provide unit leadership with an analysis, reporting, and deficiency resolution capability.

5.3.1.2. Assist the CoM in ensuring all maintenance processes, equipment, systems, end items or services are of the type and quality to meet or exceed requirements for effective mission operations.

5.3.2. QA will be the lead for the following functions:

5.3.2.1. Evaluations program conducted IAW **Chapter 7**.

5.3.2.2. Self-Inspection/Assessment Program Manager.

5.3.2.3. CPCP Monitor.

5.3.2.4. ESD Monitor.

5.3.2.5. Conducts work center ESD Control surveys according to TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance and Test of Electrical Equipment*. **(T-3)**

5.3.2.6. TODO IAW **Chapter 13**.

5.3.2.7. MICT administrator/manager. **Note**: The QA NCOIC should be considered for a wing/delta inspection team position for RAWS functions.

5.3.2.8. Unit LOTO Monitor IAW **Chapter 8**.

5.3.2.9. Evaluate the quality of maintenance performed in the maintenance work centers.

5.3.2.10. Ensure completion of PQDRs IAW TO 00-35D-54.

5.3.2.11. Perform technical reviews of modification proposals and process valid proposals according to applicable directives.

5.3.2.12. Validate LWC, when required, IAW **Chapter 13**.

5.3.2.13. Train Quality Assurance Representatives (QARs) and spot check QAR performance.

5.3.2.14. Maintain a record copy of all applicable, published AFMQCCs. AFMQCCs can be used in the absence of an Air Force-wide standardized checklist or governing DD form for a particular process, function, or piece of equipment.

5.3.2.15. AFMSIs can be accessed on the AFFSA XAR SharePoint®. This website may be accessed through the RAWS Portal page at **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

5.4. Maintenance Operations Center.

5.4.1. Units will establish a 24-hour POC for each deployed equipment/UTC and ensure they perform MOC functions IAW **Chapter 10**.

5.4.2. All other duties and responsibilities, to include in-garrison functions, will be outlined in a unit OI.

5.5. Materiel Control. Materiel Control will function as organizational supply and provide mobility support. Materiel Control will perform the following duties:

5.5.1. Set up a supply and equipment account with the host base as identified in the tasking directive. This will include the ID of contact points, means of communication, and delivery destinations.

5.5.2. Identify deployed or transferred assets to the support base. **(T-3)** For long-term deployments, transfer assets to the support base account via Redistribution Order procedures. **(T-3)**

5.5.3. Follow Readiness Spares Package (RSP) storage availability, issue, turn-in procedures, and establish procedures for RSP replenishment at deployed locations.

5.5.4. Maintain a "part number to National Stock Number" cross-reference capability on all items contained in the RSP(s). Web Federal Logistics Information System (WEBFLIS)/Federal Logistics (FEDLOG) is recommended.

5.5.5. Close supply and equipment accounts with the support base upon termination of deployment. **(T-3)**

5.6. 1C8 Unit Type Code Team Lead. The Team Lead will adhere to and enforce all maintenance work center functions. In addition, Team Leads will perform the following duties:

5.6.1. Verify completion of pre-deployment and post-deployment inspections for assigned UTC to include:

5.6.1.1. Completion of highest interval preventive maintenance inspection and below.

5.6.1.2. Completion of End Item equipment inventory AFTO Form 470, *Electronic Set Inventory Checklist*, AFTO Form 471, *Electronic Set Inventory Checklist Configuration Data*, and AFTO Form 472, *Electronic Set Inventory Checklist Completion Data*, and include copies of all historical records.

5.6.2. Check UTC inventory against Logistics Detail (LOGDET) for completion and accuracy.

5.6.3. Check RSP inventory for completion and accuracy.

5.6.4. Complete all required inspections on UTC assigned Primary Movers and Mobilizers. **(T-3)**

5.6.5. Verify all cargo is packed, prepared, and processed for shipment IAW AFI 10-403, *Deployment Planning and Execution*.

5.6.6. Ensure all required shipping documents are acquired.

5.6.7. Coordinate with appropriate work centers to ensure all support equipment will be available and in place (e.g., Power Production; Heating, Ventilation, Air Conditioning (HVAC); and Vehicle Operations).

5.6.8. Ensure all TMs are current, complete, and packed.

5.6.9. Verify all required maintenance documentation forms and supply forms are acquired and packed.

5.6.10. Verify all members of UTC follow established maintenance and safety practices IAW this DAFMAN.

5.6.11. Verify all maintenance actions are properly documented in IMDS or on an AFTO Form 349, *Maintenance Data Collection Record* until IMDS can be updated. **(T-2)**

5.6.12. Verify documentation of all critical maintenance actions in historical records. **(T-2)**

5.6.13. Verify equipment statuses are being reported IAW DAFI 21-103. **(T-2)**

5.6.14. Verify completion of MOC responsibilities if assigned by the deployed unit commander.

5.7. Expeditionary UTC Evaluations.

5.7.1. When deployed, in most cases, UTC evaluations are not required. However, reconstitution and redeployment of equipment/UTCs may require accomplishment of evaluations. **Note:** If evaluations are performed, the following QA duties will be accomplished at the discretion of the deployed unit commander:

5.7.1.1. Conduct or participate in site transfer inspections when relieving/replacing personnel at a deployed location. This will only be done if previously deployed equipment/UTCs will remain in place at the deployed location. Site transfer inspections ensure systems are operational, problems are identified, and equipment inventory is complete and capable of meeting mission requirements. The deployed unit commander will determine the personnel best suited to perform the evaluations. The evaluation report will be routed and closed within the deployed unit.

5.7.1.2. Document site transfer inspections within 15 calendar days after assuming maintenance responsibility. If possible, perform inspection with incoming and outgoing personnel. During inspections, the evaluator will accomplish the following as a minimum:

5.7.1.2.1. Accomplish minimum essential checks to ensure the systems are operating within required parameters IAW associated technical data. **(T-3)**

5.7.1.2.2. Verify all safety items are on-hand and safety deficiencies identified.

5.7.1.2.3. Verify all C-E facilities, shelters, work benches, and systems are grounded properly.

5.7.1.2.4. Conduct corrosion prevention and control as required.

5.7.1.2.5. Verify all mobility markings are up to date.

5.7.1.2.6. Verify required support items (e.g., technical data, tools, TMDE, RSP, are available and in proper condition to support a sustained deployment.)

5.7.1.2.7. Verify master PMI schedule and all required PMIs are scheduled and performed at appropriate interval. **(T-3)**

5.7.1.2.8. Account for all assets and verify documentation on applicable CIR or R14, mission critical systems and equipment listings, or other equipment accountability and inventory documents**.**

5.7.1.2.9. Maintain a copy of the site transfer inspection on site for a minimum of 12 months.

5.7.2. QA evaluators will perform air mobility and road mobility evaluation for redeploying equipment. These evaluations must be completed prior to redeployment of equipment/UTCs to home station or alternate deployment location. **(T-3)**

Chapter 6

REGIONAL MAINTENANCE CENTER

6.1. Introduction. This chapter describes procedures and guidelines to ensure safe and reliable ATCALS performance for centrally managed, remotely maintained systems. The Air Force Flight Standards Agency, Commander is the commander of the RMCs in support of using commands and local units. **Note**: RMC functions are performed by AFR at applicable units.

6.2. RMC Locations. The Continental United States (CONUS) RMC is located in Oklahoma City, OK, the European RMC is located at Kapaun AS, Germany, and the Pacific RMC is located at Yokota AB, Japan.

6.3. RMC Responsibilities. The RMCs provide worldwide 24/7 maintenance support for fixed base, remote maintenance-capable NAVAID systems that are Air Force Programs of Record. RMCs provide on-site maintenance for equipment within their respective region but may be called upon to support other regions. Regional Maintenance Center(s) will:

6.3.1. Perform routine and specialized maintenance for fixed base regionally maintained equipment to include resets, alignments, adjustments, and flight check inspections when required.

6.3.2. Respond (by dialing into identified system) to troubleshoot maintenance alerts and system outages within 30 minutes during the normal duty hours and 60 minutes for non-duty hours, 24 hours per day, 7 days per week.

6.3.3. Respond to system outages as first in, first out. System restoral will be based on outage criticality, e.g., emergency outage vs. routine outage.

6.3.4. Request permission to take control of the system and perform appropriate actions to correct the problem. JCN will be issued to appropriate ATC agencies, as required.

6.3.5. Coordinate with the local work center to order parts for regionally maintained equipment. Local maintenance personnel may conduct the parts replacement under the direction of RMC personnel IAW TO 00-20-10.

6.3.6. Respond on-site when troubleshooting can no longer be completed remotely, in conjunction with the arrival of ordered parts, or if additional maintenance actions are required.

6.3.7. Contact the local RAWS work center following restoral to return system to service.

6.3.8. Ensure all required PMIs have been accomplished by local work centers or RMC personnel as outlined in TO 00-20-10.

6.3.9. Perform acceptance evaluations during equipment installation of regionally maintained systems and provide orientation training to assigned work center personnel at that time.

6.3.10. Notify Flight Inspection Coordination Office of out-of-cycle flight inspection needs due to maintenance actions.

6.3.11. Provide outage updates via CORs to applicable customers, RAWS work center, and MAJCOM, FOA, or DRU within 1 hour (duty hours) or 2 hours (outside of normal duty hours). Once a status change occurs, additional updates will be provided within the same timeframe.

6.3.12. Provide a completed trip report for each site visited to MAJCOM/FOA/DRU and RAWS work center within 30 calendar days of returning to home station.

6.3.13. Utilize funds, facilities, and other resources in an effective and efficient manner and in the best interest of the RMC. Plan resource utilization, replenishment, and budget allocation to ensure personnel are provided the equipment and resources needed to accomplish the mission effectively.

6.3.14. Provide RMC technicians with applicable training (e.g., OJT, classroom) and maintain 100% work center task coverage.

6.3.15. Develop duty schedules, to include assignment of standby/on-call responsibilities IAW AFMAN 13-204, Volume 1 para 3.3. to support operations.

6.3.16. Verify all JDD/ESR is accurate and complete.

6.3.17. Document, maintain, and report system and/or equipment status IAW DAFI 21-103 using IMDS. **(T-2)**

6.3.17.1. Use AFTO Form 349 if IMDS is temporarily unavailable and maintain a copy until IMDS is available. Upon IMDS restoral, enter all applicable data as necessary.

6.3.17.2. Review the MAR to validate JDD weekly. **(T-3)** Review the OIL to validate ESR weekly against the DOM. **(T-3)**

6.3.17.3. Coordinate status changes with all concerned agencies and include start time and ETRO in the job narrative or applicable IMDS field. Update ETROs when the original cannot be met.

6.3.17.4. Direct, document, and control removal/replacement/cannibalization/controlled substitution actions IAW TO 00-20-2. For IMDS entries, use AFCSM 21-561, (hosted in IMDS under the “Links” section of the top menu) for documentation details.

6.3.17.5. Assign a JCN when a loss of capability or function in either equipment/system or service occurs. The same JCN will be used on the job and/or applicable equipment status report throughout the life span of the job.

6.3.17.5.1. The JCN will remain open until the job is completed, regardless of whether or not control changes between the work center and other agencies.

6.3.17.5.2. For outside agency support, capture customer service request tracking number in the IMDS job subject line/narrative (e.g., BCE work order number, AT&T tracking number, Fed Ex tracking number).

6.3.17.5.3. Maintain the status of all active scheduled, unscheduled, and deferred jobs in IMDS.

6.3.18. Support in the management, scheduling, and coordination of remote maintenance capable ATCALS installations.

6.3.19. Conduct site visits.

6.3.19.1. Review and interpret all facility reference and site data prior to any site visit and equipment maintenance.

6.3.19.2. Notify and coordinate all equipment downtime and NOTAM schedules with the RAWS work center supervisor.

6.3.19.3. Notify and coordinate with local work centers for all assistance with remote or on-site maintenance on all affected systems.

6.3.19.4. Conduct in-/out-briefs with respective operations agencies for all site visits.

6.3.19.5. Collect and document all data on appropriate equipment forms after any maintenance is performed.

6.3.19.6. Verify, document, and input all changes to facility reference data into IMDS, facility record, and any approved databases. (Verify by ground checks or if necessary, flight check.)

6.3.19.7. Confirm equipment software configuration files are up to date and saved to any pre-designated file sharing locations.

6.3.19.8. Initiate action to correct unsatisfactory equipment performance trends on regionally maintained equipment. Record and maintain inspection and maintenance records.

6.3.19.9. Identify tasks in applicable AFJQS essential to maintaining and restoring NAVAIDs. Provide and document training on DAF Form 797, *Job Qualification Standard Continuation/Command JQS,* to technicians appointed in **paragraph 2.4.7** as requested.

6.3.20. Perform site evaluations for units with limited and/or degraded capabilities.

6.3.20.1. Submit to the appropriate MAJCOM, by 15 July of each year, a list of NAVAID equipment to be baselined/evaluated during the next fiscal year. The nominated NAVAID equipment should be systems that are between seven and ten years from initial installations and/or previous baseline evaluation, whichever was conducted last. The provided list should be prioritized with narrative justifications (i.e., provide reasons why the evaluation is needed). List the request in order of priority and include:

6.3.20.1.1. Purpose. Define problems and state the reason for the request.

6.3.20.1.2. Location.

6.3.20.1.3. Type of evaluation: Baseline or Special.

6.3.20.1.3.1. Baseline: This evaluation is performed to determine optimum configuration of adjustable and selectable features, capabilities, and limitations, and airspace coverage. It is tailored to individual NAVAID sites and missions. Flight inspections will be required to complete the evaluation. **(T-1)**

6.3.20.1.3.2. Special: This evaluation is performed to assist an operating organization in isolating the cause of substandard performance, effects of proposed and existing modifications, remedy operational capability, optimize system configuration.

6.3.20.1.4. Type of NAVAID equipment to be evaluated and runways supported.

6.3.20.1.5. Mission impact if the evaluation is not performed by desired date.

6.3.20.1.6. Optimum time period for the evaluation to be scheduled.

6.3.20.1.7. Estimated funding request of baseline materials.

6.3.20.2. Coordinate directly with units to schedule evaluations.

6.3.20.3. Ensure the MAJCOM and unit concurs with the evaluation schedule before arrival of RMC.

6.4. Funding.

6.4.1. AFFSA will forecast and provide TDY funding for tasked functions that must be accomplished by RMC personnel.

6.4.2. MAJCOMs, or local units will be responsible to provide funding for RMC TDYs necessary to support base level projects or other instances for support outside of RMC primary scope of responsibility (e.g., moving equipment and/or shelters, building refurbishment, failed infrastructure, etc.). **(T-1)** During the planning process, MAJCOMs and units should consider requirements and potential for RMC involvement and be prepared to fund RMC TDY travel.

6.4.3. Units will ensure downtime requests are coordinated and approved by appropriate base leadership prior to RMC arrival. If downtime is cancelled or rejected once RMC personnel are on site, local units will be responsible for additional TDY costs required to keep RMC personnel there longer than projected, or for them to return at a later date.

6.4.4. Non-fly Depot Level Reparable (DLR) funding is managed by MAJCOMs/units and should account for systems maintained by RMCs, the RMCs do not fund replacement parts.

6.5. Contract Maintenance Support.

6.5.1. Units with contractor maintenance will clearly define contractor responsibilities and ensure that RMC has a copy of the final PWS as it pertains to equipment maintenance. **(T-3)**

6.5.2. Units will coordinate through AFFSA/XM, PWSs that contract maintenance for centrally managed, remotely maintained ATCALS and involve shared responsibilities or tasks for AFFSA and/or RMC personnel. **(T-1)** RMC personnel will not complete work and/or perform tasks that have not been coordinated and approved. **(T-1)**

6.5.3. Costs incurred by performance of previously coordinated responsibilities levied upon AFFSA by PWS will be funded by the requesting unit and/or MAJCOM. **(T-1)**

6.6. RMC Assumption of Maintenance.

6.6.1. Requests for the RMC to assume maintenance responsibilities and/or provide sustained support will be coordinated through AFFSA/XM for final approval (i.e., no longer contractor maintained, addition of new system that is not funded by AFFSA, etc.).

6.6.2. Bases supported and systems maintained by the RMC are listed on the RMC SharePoint® site, adding a system or support must be coordinated through AFFSA/XM.

6.7. Additional RMC Support.

6.7.1. MAJCOMs/Units will coordinate with AFFSA/XM as soon possible for any local/construction projects that impact regionally maintained systems, or that are in the vicinity of regionally maintained system equipment. Coordination should include project scope of work, projected dates, and any specific requests for RMC support.

6.7.2. MAJCOMs/Units will coordinate with AFFSA/XM for any additional support requests (e.g., training, baseline/special evaluations not previously forecasted, significant issues/concerns, etc.). MAJCOMs/Units should be prepared to provide funds if required.

Chapter 7

QUALITY ASSURANCE

7.1. Introduction.

7.1.1. The QA evaluator's primary duty is to ensure mission accomplishment occurs within the confines of law, DoD policy and guidance, Air Force policy and TOs. QA also provides an analysis, reporting, and deficiency resolution capability. It serves as the tool for ensuring that a process, equipment, system, end item, or service is of the type and quality to meet or exceed requirements for effective mission accomplishment.

7.1.2. QA is applicable to all field-level units with RAWS personnel. Those units will apply and perform the QA policies prescribed within this DAFMAN and applicable checklists. **(T-3)** Unit leadership is charged with the safety and quality of equipment operation, training, and maintenance. These actions will utilize the Inspection System self-assessment program as detailed in DAFI 90-302, to meet compliance and evaluation requirements. **(T-3)**

7.1.3. When manning or other extenuating circumstances exist preventing compliance, submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority. Once approved, the unit commander will appoint an individual within the RAWS maintenance work center to serve as QAR and perform QA duties outlined in **Chapter 2**. These QAR are individuals not permanently assigned as a QA evaluator and will report directly to the flight commander for all matters pertaining to QA functions.

7.1.4. QARs must meet the training requirements listed in **paragraphs 2.9.2.1** through **paragraph 2.9.2.3**.

7.2. Managerial Evaluations. Managerial evaluations will be performed as part of the Inspection System.

7.3. Personnel Evaluations.

7.3.1. The PE program assesses the effectiveness of a work center's training program, technician competence, and technical and procedural data adequacy. These evaluations ensure equipment or systems are maintained in an effective and efficient manner to meet mission requirements. The evaluation can be accomplished on a system, equipment, or service-oriented function the technician is qualified to perform (e.g., align radar system, repair navigation system, and follow a written process). Evaluators observe how well processes are performed to determine if the technician demonstrates sufficient skill to accomplish the tasks. See **Attachment 2** for additional information regarding PE process.

7.3.2. There are three types of PEs: Individual Personnel Evaluations (IPEs), UTC Evaluations, and Special Personnel Evaluations (SPEs).

7.3.2.1. Individual Personnel Evaluation. RAWS personnel and civilians directly maintaining centrally managed assets will complete an IPE within one year of initial assignment to an organization and upon return to the maintenance work center after an absence of one year or longer. **(T-2)** Short tour overseas assignments of 18 months or less, RAWS personnel will accomplish the IPE no later than 9 months' time on station. **(T-2)** RAWS personnel and civilians directly maintaining centrally managed assets will accomplish recurring IPEs on an 18-month cycle (24-month cycle for ANG personnel).

(T-2) This does not apply to MSgts - CMSgts unless they maintain training records and are task qualified to maintain equipment.

7.3.2.2. Unit Type Code Personnel Evaluation. UTC PEs assess UTC personnel readiness against the UTC MISCAP and ensure mission reliability. UTC PEs are completed on all RAWS personnel assigned to UTC-based organizations whose primary mission is to deploy. An individual will complete these evaluations within 90 calendar days (180 calendar days for ANG/AFR) of being identified in the appropriate readiness tracking database. **(T-2)** These evaluations can be accomplished during field training exercises and other internal training opportunities. Team UTC PEs are encouraged; however, these evaluations do not apply to UTCs that do not have an equipment/technical component. **Note**: This evaluation can replace or be accomplished in conjunction with the initial IPE. If an individual is permanently reassigned to another UTC or the primarily assigned UTC has major changes (e.g., equipment replacement, new tasks identified), another UTC PE is required. **(T-2)**

7.3.2.3. Special Personnel Evaluation. SPEs are conducted on an as-needed basis. These evaluations are commonly conducted after major modifications of equipment/systems, or reevaluation of an individual who received a Not in Compliance (NIC) result from a previous evaluation, or who has had his/her qualification status revoked for any reason other than supervisor decertification.

7.3.2.3.1. Modification SPEs are required within 60 calendar days of new equipment/system acceptance on a sampling of assigned Regular Air Force personnel. Modification SPEs are required within 120 calendar days of new equipment/system acceptance on a sampling of ANG and AFR personnel. A major modification is defined as changes to published operating system parameters, specifications, requirements, or any change that revises published safety procedures.

7.3.2.3.2. Re-evaluation SPEs are the assessment of an individual who received a NIC result from a previous evaluation, or who has had his/her qualification status revoked for any reason other than supervisor decertification. Re-evaluation will be conducted within 90 calendar days after notification of recertification by the individual's supervisor. ANG and AFR will be re-evaluated within 120 calendar days. The re-evaluation of an individual whose previous evaluation resulted in a NIC will include only the specific tasks graded NIC, or the combination of the tasks that resulted in the NIC, unless the individual's leadership determines a complete re-evaluation is necessary.

7.3.2.4. MFMs should ensure the effectiveness of the unit QA program by conducting evaluations on the QA evaluators and representatives.

7.4. Equipment Evaluation.

7.4.1. EEs are intended to give an overall view of the quality of maintenance. They also provide useful data for identifying training deficiencies and potential sustainment problem areas. The evaluation of systems maintained by the work center will be conducted by the QA program on a 12-month cycle (24 months for ANG). Equipment evaluations may be performed by any qualified technician and will be overseen and documented by an appointed QA/QAR

evaluator. **Attachment 3** can be utilized for EEs consisting of multiple like items. See **Attachment 3** for additional information regarding EE process.

7.4.2. EEs are to be performed in enough depth to ensure systems and equipment are maintained and managed according to applicable technical data. The following areas will be evaluated as a minimum:

7.4.2.1. System performance as indicated by the technical parameters outlined in equipment specific TO/TM guidance. Also, NAVAIDS and ATC radar systems performance will be compared to flight inspection records and facility/equipment reference data.

7.4.2.2. Equipment cleanliness and housekeeping.

7.4.2.3. Compliance with standard maintenance practices and equipment safety requirements.

7.4.2.4. Corrosion prevention and control.

7.4.2.5. Equipment historical files, TO/TM configuration, and completeness using equipment inventory AFTO Form 470, AFTO Form 471, AFTO Form 472, automated copies according to TO 00-35D-2, *Electronic Set Inventory Checklist for Ground Communications-Electronic (C-E) Equipment*, and/or master COTS inventories. Units will develop master inventories based on shipping, acceptance, catalog, and other applicable documents for COTS equipment.

7.4.2.6. Applicable mobility markings.

7.4.2.7. Compliance with preplanned and time change requirements.

7.4.2.8. Management action taken on deferred maintenance actions.

7.4.2.9. Verification of the Master PMI Schedule to ensure all PMIs are scheduled.

7.4.2.10. Availability and condition of the required technical data, tools, and TMDE.

7.5. Unit Type Code Evaluations.

7.5.1. UTC evaluations will consist of three separate components designed to measure readiness: personnel readiness, equipment readiness, and acceptance readiness when new or overhauled equipment is received from the manufacturer/depot. The components of the UTC inspection can be accomplished separately or grouped together into one evaluation depending on availability of equipment and personnel. If grouped together, generate one report versus separate reports for each equipment end item/person.

7.5.2. The evaluation intervals are as follows:

7.5.2.1. UTC personnel will be evaluated when assigned to a UTC or once every 18 months if already assigned to a UTC (24 months for ANG personnel). **(T-3)** Number of tasks evaluated is determined based on the minimum number of tasks necessary to make UTC operational.

7.5.2.2. UTC equipment will be evaluated as follows: pre-deployment, post deployment, and once every 24 months beginning from last post deployment inspection if not deployed. **(T-3)**

7.5.2.3. UTC acceptance evaluations will be conducted as required when equipment is received from the manufacturer or depot. **(T-3)**

7.5.3. For UTC PEs, the evaluator will assess a minimum number of tasks to ensure proper pre-deployment, employment, and redeployment of the assigned UTC. These tasks will be selected from the individual's Individual Training Plan (ITP) and align to the UTC MISCAP.

7.5.4. UTC PEs will be conducted at the same interval as standard PEs. **(T-3)**

7.5.5. UTC EEs assess mission readiness against the UTC MISCAP and ensures mission reliability. UTC EEs are completed on all equipment assigned to UTC-based organizations whose primary mission is to deploy. These evaluations are intended to ensure that equipment is operating within the same capabilities as reported. The evaluations can be accomplished during field training exercises and other internal training opportunities when available. Team UTC EEs are encouraged. These evaluations do not apply to UTCs that do not have an equipment/technical component.

7.5.5.1. UTC EEs should include the highest interval PMI and below to evaluate that equipment is operating within tolerances IAW governing TOs/Technical Instructions (TIs)/TMs and/or COTS documentation.

7.5.5.2. Inspections should also evaluate that known equipment limitations or malfunctions at the time of inspection are being accurately reported in the IMDS and/or required reporting tool.

7.5.5.3. A qualified 5-level or higher must conduct the UTC evaluation. After completion, the UTC Team Lead and flight commander must validate the results.

7.5.5.4. If an individual's UTC evaluation result is unsatisfactory, the unit commander determines whether or not the individual's readiness status is changed.

7.5.6. UTC Acceptance Inspections (AIs) will ensure that system(s) being accepted is/are within full operational capability IAW applicable TOs/TIs/TMs and/or COTS documentation and documented on applicable acceptance forms. UTC AIs will also include completing a full inventory of all equipment supplied by the manufacturer or depot. These inventories will be completed on AFTO Form 470, AFTO Form 471, and AFTO Form 472.

7.6. Trend Analysis.

7.6.1. Trend analysis is used to collect, compile, analyze, and record data on the processes sampled by QA personnel. One or two minor deficiencies may not seem significant by themselves; however, several similar instances could constitute a significant deficiency capable of impairing the unit or wing/delta mission. Effective trends analysis ensures continuous improvements of RAWS operations and processes.

7.6.1.1. Noticeable trends found during monthly no-notice inspections will be reported under the Special Interest Items tab of the RAWs Management MS Teams® (Team code: qv6t9ij) in the Inspections and Evaluations channel.

7.6.1.2. Special Interest Items (SIIs), PEs, and EEs will be submitted under the applicable tab of the RAWs Management MS Teams® channel.

7.6.2. Responsibilities and Awareness. The following are pertinent to QA performance of trend analysis:

7.6.2.1. It is critical for QA personnel to be alert for patterns of recurring errors found during all forms of evaluations. These deficiencies may indicate that additional guidance and training are needed in a specific area or function. In conjunction with documenting evaluation results, QA personnel and the affected work center supervisor must perform a root cause determination.

7.6.2.2. Deficiencies are often symptoms of an underlying problem. Management actions which result in ineffective supervision, inadequate training programs, insufficient manning, lack of proper tools, test equipment, parts or supplies, or a combination of these and other factors may be at the root of the identified problem.

7.6.2.3. Identify which agency has overall responsibility for the functional area. Sometimes the root cause may not reside in the work center that initially identified the problem; therefore, the problem may be out of their control. In these instances, QA personnel will report the issue to leadership for the appropriate resolution.

7.6.2.4. Review previous deficiency analysis results to determine the effectiveness of the actions taken to resolve the root cause(s). Compare current trend analysis results with previous results to identify similarities or recurring error trends or deficiency patterns.

Chapter 8

WORK CENTER SAFETY

8.1. Work Center Safety Functional Areas.

8.1.1. Work center supervisor will maintain a work center safety program. **(T-1)**

8.1.2. DAFMAN 91-203 is the primary safety guidance for Air Force personnel.

8.1.3. DAFI 91-207, *The Traffic Safety Program*, provides guidance and additional references for operating government owned vehicles.

8.1.4. DAFI 91-202 delineates other safety program requirements and management information such as the Job Safety Training Outline (JSTO).

8.2. Work Center Safety Program. As a minimum, the work center safety program will contain:

8.2.1. Lockout/Tag Out.

8.2.1.1. LOTO will be accomplished IAW system TO requirements as outlined in DAFMAN 91-203. **(T-0)**

8.2.1.2. In the event a completed Job Hazard Analysis (JHA) or Bioenvironmental Engineering's Occupational and Environmental Health risk assessment survey has determined the need for a more extensive LOTO program, those guidelines must be followed. **(T-1)**

8.2.2. Ground and Lightning Protection/Electrostatic Discharge.

8.2.2.1. Grounding, bonding, and shielding are approached from a total system concept by the DoD. TO 31Z3-822-2; TO 31-10-24, *Installation Practices - Communication Systems Grounding, Bonding and Shielding*; MIL-STD-188-124B, *Grounding, Bonding and Shielding for Common Long Haul/Tactical Communication Systems Including Ground Based Communications-Electronics Facilities and Equipment*; and MIL-HDBK419A, *Grounding, Bonding, and Shielding for Electronic Equipment and Facilities*, lay out the requirements of the subsystems.

8.2.2.2. Lightning Protection Subsystem consists of a network of conductors which provide a nondestructive path to earth ground (Earth Electrode Subsystem) for lightning energy. Reference MIL-STD-188-124B for an explanation of lightning and its effects.

8.2.2.3. Inspection Requirements. Ensure BCE performs facility grounding and lightning protection checks IAW AFMAN 32-1065, *Grounding & Electrical Systems*. **(T-0)** Ensure work center facility managers and safety monitors perform physical/visual grounding and lightning protection inspections as part of PMIs and required site inspections. **(T-3)** This includes mobile/transportable systems when operated at their garrison location.

8.2.2.4. Refer to TO 00-25-234 for ESD requirements.

8.2.3. Climbing.

8.2.3.1. Work centers will adhere to program requirements IAW DAFMAN 91-203. **(T-0)**

8.2.3.2. Line worker boots must have safety toes that meet the standards in the American Society for Testing and Materials (ASTM) F2412-18a, *Standard Test Methods for Foot Protection*. **(T-0)**

8.2.4. Arc Flash.

8.2.4.1. Work centers are required to adhere to safety requirements outlined in National Fire Protection Association (NFPA) 70E, *Standard for Electrical Safety in the Workplace*. **(T-0)**

8.2.4.2. Work centers will provide and maintain Arc Flash protective gear to personnel as outlined in NFPA 70E. **(T-0)**

8.2.4.3. Work center will adhere to systems TOs and individual MAJCOM, FOA, or DRU supplements for DAFMAN 91-203 and DAFI 91-202 that may levy additional safety requirements. **(T-2)**

8.2.5. Hazardous Communication.

8.2.5.1. Establish effective safety and radiation protection practices according to DAFMAN 91-203. **(T-1)**

8.2.5.2. Develop and document work center specific Hazardous Communication (HAZCOM) training IAW AFI 90-821, *Hazard Communication (HAZCOM) Program*. **(T-0)**

8.2.5.3. Develop and implement a local OI for working around radio frequency radiation hazards IAW TO 31Z-10-4, *Standard Installation Practices – Joint Services Command, Control, Communications, and Computer Systems Electromagnetic Radiation Hazards*, Appendix A. **(T-1)**

Chapter 9

TRAINING MANAGEMENT

9.1. Introduction.

9.1.1. The Air Force Training Program provides training for personnel to attain knowledge and skill qualifications required to perform duties within their specialty. The continuum of training for RAWS personnel begins at technical training and progresses throughout their entire career. The intent is to provide initial, upgrade, on-the-job, proficiency, and qualification training at key periods of a RAWS maintainer's career depending on time periods, locations, systems, and duty/job requirements. **Note:** Refer all policy related questions to AFFSA/XAR at **HQAFFSA.XAR.RAWSOperationsProc@us.af.mil** or training related questions to 334 TRS/RAWS at **334TRS.ULC.Workflow@us.af.mil**.

9.1.2. All training will be conducted IAW DAFMAN 36-2689, *Training Program*. **(T-3)**

9.1.2.1. Personnel are considered in training until they become 100% task qualified. At a minimum, personnel must show training progression every 30 calendar days (60 days for ANG personnel). **(T-2)**

9.1.2.2. Refer to the 1C8X3 RAWS CFETP for more information specific to the 1C8 career field.

9.2. Training Program Requirements.

9.2.1. Initial Skills Training is the bedrock of learning and instills the basic theory and training RAWS personnel will utilize and expand upon over time. The 334 TRS/RAWS at Keesler AFB will provide a multi-tracked course that teaches overall fundamentals to all personnel, before driving them through specific material based on the mission of their first base assignment.

9.2.2. Once personnel reach their first duty assignment, they will begin Upgrade Training (UGT), OJT, proficiency training, and qualification training. **(T-3)**

9.2.2.1. UGT will be based on the work center's MTP, the phased training approach, and the CFETP. The CFETP identifies common core task requirements for each skill-level upgrade across the RAWS career field. AFJQS and AFQTP will be assigned to personnel to complete UGT when they have applicable equipment items at their assigned location. UGT will not exceed 18 months (24 months for ANG personnel). **(T-3)**

9.2.2.2. OJT, proficiency, and qualification training is a necessary progression for personnel as they continue their career. The intent is to ensure job position, system familiarization and maintenance/theory proficiency increases over time to sustain the unique mission RAWS contributes to the Airfield Operations, Weather, Sister Services, and other communities. OJT will be completed by the work center supervisors and trainers based on the local MTP. Proficiency and qualification training documentation will be completed by the work center supervisor and trainers, in conjunction with available AFJQSs, AFQTPs, and supplemental training products.

9.2.2.3. Continuation training and supplemental training courses will be available for personnel once they reach the appropriate proficiency and qualifications. **(T-3)** Supplemental training courses identified in the available course listing in **Attachment 8**

will be utilized to provide advanced skill proficiency development to meet unit mission needs. The 334 TRS/RAWS will create and provide supplemental courses as deemed necessary by the needs of work centers, and at the direction of the CFM. Supplemental reference videos and training aids, created and managed by 334 TRS/RAWS and/or AFFSA, may be created and used to assist the field with proficiency and continuation training efforts. Continuation training will be required for personnel that PCS to a unit with a mission in which the member did not attend formal 3-level courses in initial skills training. **(T-2)** An example of this is a member moving from a mobile unit to a fixed unit, where they should transit through Keesler AFB to receive the training for their new assignment.

9.2.3. Except for ancillary training, all RAWS personnel will track and document training in an approved AIS for training.

9.2.4. All Air Force required ancillary training will be tracked in myLearning unless otherwise specified by program guidance.

9.2.5. All non-Air Force required ancillary training will be tracked in a sustainable method.

9.2.6. The work center supervisor will develop a training OI to establish local policy and procedures for implementing the training program. **(T-3)** As a minimum, include the following:

9.2.6.1. Responsibilities of personnel (AOF Flight Commander, Supervisor, Trainer, Trainee and QA evaluator/representative) involved in the training program.

9.2.6.2. Training program review procedures and documentation requirements.

9.2.6.3. Monthly training assessment procedures.

9.2.6.4. Recurring, review, and supplemental training.

9.2.6.5. Local or unique training requirements.

9.2.6.6. Work center orientation and initial evaluation.

9.2.7. Personnel in training will progress through four phases of training and be loaded tasks from the fifth miscellaneous phase when appropriate. **(T-3)** Each phase will build upon the knowledge of the last phase. Trainers may teach any task even if the member is not in that phase, however a task may not be signed off until the member reaches that phase of training. Example, trainers should not sign off a Phase 4 task if the trainee is in Phase 1. Phase 5 is the only exception as those tasks may be signed off at any point, if proficient.

9.2.8. The 334th TRS/RAWS will analyze each training product and categorize tasks based on complexity and required proficiency levels. Tasks will then be assigned to a specific training phase. Each AFJQS will include headers to indicate which phase specific tasks belong to. **Note:** The phase breakout pertains only to 1C8 specific AFJQS's, all other command AFJQS's will remain with the command OPR and will be loaded with CFETP task groups.

9.2.9. The 5 phases of training are: Phase 1-Knowledge Tasks, Phase 2-System Operation, Phase 3-System Checks, Phase 4-Advanced Theory and Alignments, and Phase 5-Miscellaneous. **Note:** A training journal entry must be conducted at the completion of each individual phase.

9.2.9.1. Phase 1: Knowledge Tasks (Fundamental Concepts and Identification). Knowledge-based training tasks provide the fundamental concepts and theory for each system. These tasks will explain essential equipment characteristics, capabilities, and limitations. These tasks will be the foundation of the training program and will be conducted in a classroom-type environment utilizing Power Points, handouts, and/or schematic diagrams. Tasks in this phase can be completed without physical access to the equipment. The objective of this phase is for the trainee to properly be able to describe signal flow, assembly identification, and basic system theory.

9.2.9.2. Phase 2: System Operation (Turn-on/off, Operating Configuration and Indicators). System operation tasks will cover general system functions in operational conditions, fault detections via use of equipment indicators, built-in-test equipment functions, basic system resets, basic fault diagnostics, and turn-on/turn-off procedures. The objective in this phase is to properly understand operating configurations available to the system, identify system normal/abnormal indications, and turn-on/turn-off/reset of the system. Completion of this phase should enable the trainee to assume stand-by responsibilities of the certified equipment phase. **Note:** Stand-by responsibilities refers to the proficiency of the trainee to perform basic troubleshooting and reset procedures, enabling them to fulfill 24/7 system outage coverage. Any further maintenance activity could require supervision, approval, or oversite by a qualified technician.

9.2.9.3. Phase 3: System Checks (Preventative Maintenance Inspections). System checks include tasks that verify system operation, such as PMIs or tasks supporting PMIs. Tasks in this phase cover periodic operational checks and periodic system alignments. The objective of this phase is to reinforce system theory and operations, performance-based evaluation, and test equipment usage under operational conditions.

9.2.9.4. Phase 4: Advanced Theory and Alignments. Advanced theory and alignments include tasks that describe circuit or module functions and performing alignments outside of normal operations. Tasks in this phase contain training tasks utilized during troubleshooting, system alignment, and/or site survey. These tasks are a continuation of understanding regular operation from the previous phases. Phase 4 tasks primarily focus on what to do in abnormal circumstances and how to adjust the equipment back into normal constraints. The objective of this phase is to complete all remaining required training tasks not identified in the other four phases. Tasks usually consist of advanced alignments as well as remove and replacement procedures.

9.2.9.5. Phase 5: Miscellaneous (Non-Standard and High-Risk Tasks). Non-standard tasks are training tasks that are not performed regularly in a standard training environment (e.g., 5-year interval tasks). Non-standard tasks usually cause operational downtime when performed. They are usually only performed when a part assembly requires replacement. Tasks in this phase will not pertain to all 1C8 equipment. Tasks identified in this phase are completed at any time mission requirements allow for the opportunity. These tasks are not required for skill-level upgrade and may be completed out of order when associated with this phase group. **Note:** Phase 5 task groups do not have to be loaded as a whole. Individual tasks can be loaded as training opportunities become available.

9.2.10. Work center training managers will create task groups for each phase and add the appropriate tasks from the AFJQS provided to them by the 334th TRS/RAWS. Work center managers have three options when creating tasks groups:

9.2.10.1. Option 1: Load Phase 1 and Phase 2 as one task group for the entire work center. Then, each Phase 3/4/5 tasks group would be loaded as needed. This is recommended, as it gives a foundation of all equipment in the work center. Depending on equipment downtimes, a work center should focus on what needs to be completed. See example task groups below:

Table 9.1. Phased Training Example 1

Phase	Task Group
1+2	Knowledge Tasks + System Operation: All equipment (DASR + ETVS)
3	System Checks: DASR
3	System Checks: ETVS
4	Advanced Theory and Alignments: DASR
4	Advanced Theory and Alignments: ETVS
5	Misc: DASR

9.2.10.2. Option 2: Create a task group for each phase and for each piece of equipment. This will allow the local work centers to quickly train personnel on a specific type of equipment. For example, there would be phases 1-5 for DASR and 1-4 for the Enhanced Terminal Voice Switch (ETVS) since the ETVS has no MISC tasks. See example task groups below:

Table 9.2. Phased Training Example 2

Phase	Task Group
1	Knowledge Tasks: DASR
2	System Operation: DASR
3	System Checks: DASR
4	Advanced Theory and Alignments: DASR
5	Misc: DASR
1	Knowledge Tasks: ETVS
2	System Operation: ETVS
3	System Checks: ETVS
4	Advanced Theory and Alignments: ETVS

9.2.10.3. Option 3: Load all the equipment tasks across the five phases. For example, if a base only has a DASR, NEXRAD and FMQ-19, the local work center could create phase groups with all DASR, NEXRAD and FMQ-19 tasks combined together. This option would still remain at five phases and would be beneficial for work centers that do not have a large variety of equipment or downtime issues. **Note:** This option is limiting as a trainee must fully complete a phase group before progressing to the next.

Table 9.3. Phased Training Example 3

Phase	Task Group
1	Knowledge Tasks: All equipment (DASR + NEXRAD + FMQ-19)
2	System Operation: All equipment (DASR + NEXRAD + FMQ-19)
3	System Checks: All equipment (DASR + NEXRAD + FMQ-19)
4	Advanced Theory and Alignments: All equipment (DASR + NEXRAD + FMQ-19)
5	Misc: DASR

9.3. Skill Awarding Requirements.

9.3.1. Apprentice: Awarded upon graduation of formal 3-level courses in initial skills training.

9.3.2. Journeyman: Awarded upon completion of 5-level core requirements.

9.3.3. Craftsman: Awarded upon completion of 7-level core requirements, in-residence, and virtual course.

9.3.4. Superintendent: Awarded upon completion of the in-residence or virtual skill awarding course.

9.4. Climbing Training Requirements.

9.4.1. Climbing training guidance and requirements are available in DAFMAN 91-203.

9.4.2. Technicians will receive initial training from a qualified training certifier at locations where climbing is required. **(T-1)** Technicians will be certified on structures according to task requirements of the work center they are assigned. **(T-1)**

9.4.3. Installations without a climbing certifier may use an alternate source for climbing certification (e.g., Air Force mobile training team, local climbing courses, Engineering and Installation (E&I), cable, and antenna teams).

Chapter 10

PRODUCTION CONTROL

10.1. Acquire appropriate IMDS management level access (to include background rights).

10.2. Establish recurring equipment downtime as necessary to facilitate OJT and PMI completion. (T-3)

10.3. Utilize IMDS to document, maintain, and report system and/or equipment status IAW DAFI 21-103 and TO 00-20-2. (T-2)

10.3.1. Maintain the status of all active scheduled, unscheduled, and deferred jobs in IMDS. **(T-3)**

10.3.2. Use AFTO Form 349 IAW TO 00-20-2, if IMDS is temporarily unavailable and maintain a copy until IMDS is available. **(T-3)** Upon IMDS restoral, enter all applicable data as necessary. **(T-3)**

10.3.3. Assign a JCN when a loss of capability or function in either equipment/system or service occurs. **(T-3)**

10.3.4. Ensure the same JCN is used for JDD/ESR throughout the life span of job. **(T-3) Note:** This includes when maintenance responsibility is transferred outside the work center as well as any required Not Repairable This Station (NRTS) actions.

10.3.5. Establish/schedule PMIs utilizing Phase Inspection type "A". **(T-3)**

10.3.6. Track/update deferred PMIs to ensure timely completion.

10.3.7. Open a JCN sequential to the PMI JCN for major discrepancies during inspection. **(T-3)**

10.4. For outside agency support, capture customer service request tracking number in the IMDS job subject line/narrative (e. g., BCE work order number, AT&T tracking number, Fed Ex tracking number). **(T-3)**

10.5. Issue JCNs to appropriate agency IAW DAFI 21-103. (T-3)

10.6. Advise respective MAJCOM, FOA, or DRU of Not Mission Capable (NMC) outages lasting longer than 1-hour IAW MAJCOM, FOA, or DRU directives. (T-2) Note: This report is only for systems the MAJCOM, FOA, or DRU determined critical but do not require a COR.

10.7. PMIs that are deferred until the next PMI is due will not be cancelled. When the next PMI interval is scheduled, the new PMI may be cancelled with approval from the CoM (e.g., 28-day PMI will be cancelled 27 calendar days after the original scheduled due date). **(T-3)** Do not cancel the original PMI. To cancel a subsequent PMI, use screen 54 and clear the suspense using screen 128 in work center DOCS.

10.8. Obtain commander exercising operational control approval prior to cancelling PMIs twice consecutively. (T-3)

10.8.1. The PMI must be completed the second time. **(T-3)** If the PMI is not completed the second time, the maintenance activity will change the equipment status to NMC and notify the MFM. **(T-2)**

10.8.2. If continued use of equipment is deemed necessary due to operational need, the commander exercising operational control assumes risks and full responsibility/accountability for damage to personnel/property during this directed period of equipment usage.

10.8.3. If waived by the commander exercising operational control, equipment status will remain NMC in IMDS. **(T-3)**

10.8.4. Waiver approval must be documented in IMDS. **(T-3)**

10.9. Utilize Restoral Priorities. The work center will work jobs in such an order as to follow agreed-upon restoral priorities (e.g., work on a lower priority asset would be deferred if an outage on a higher priority asset occurs). **(T-3)** Guidance for establishing restoral priorities and outage response times is found in DAFMAN 13-204, Volume 1. Generally, restoral priorities for key systems are determined with all key base/wing/delta agencies. Many organizations also tie this to the base recovery plan. **Note:** DATCALS will establish priorities if necessary. **(T-3)**

10.10. Review and accomplish all TCTOs and document in IMDS. (T-1) Additionally, accomplish any other completion reporting instructions specified within the TCTO. **(T-1)** For IMDS TCTO processing and procedures, review AFCSM 21-568 Volume 2, *Time Compliance Technical Order (TCTO) Software User Manual* (hosted in IMDS under the "Links" section of the top menu). **Note:** Commanders are not authorized to waive the accomplishment of TCTOs but may waive the requirement of the work center supervisor from reviewing and accomplishing TCTOs if the commander designates another office to perform that function. All TCTOs need to be immediately loaded and documented in IMDS, whether or not they are applicable at that location. TCTOs for RMC-supported equipment will be accomplished by or in coordination with RMC personnel. **(T-1)**

Chapter 11

LOGISTICS, LIFE CYCLE, AND PROJECT MANAGEMENT

11.1. Introduction.

11.1.1. This chapter provides logistics and life cycle management procedures for mission systems and equipment.

11.1.2. It is intended to assist and direct managers in a systematic approach to resolving mission systems and equipment sustainability problems and making critical logistics decisions.

11.1.3. This chapter provides framework and elements to establish sustainability processes for mission systems and equipment support.

11.2. Air Force Centrally Supported Equipment/Systems.

11.2.1. Centrally supported equipment/systems are managed by a program office IAW AFI 63-101/20-101.

11.2.2. A program office will be responsible for the equipment's logistics life cycle management and Operational Safety, Suitability, and Effectiveness (OSS&E) IAW Air Force Materiel Command Instruction (AFMCI) 63-1201, *Integrated Life Cycle Systems Engineering and Technical Management*. **(T-3)**

11.3. Non-Centrally Supported Equipment/Systems.

11.3.1. A program office does not manage non-centrally supported equipment. For this type of equipment, the procuring activity (e.g., MAJCOM, FOA, DRU, or unit) will be responsible for all life cycle sustainment planning and OSS&E. **(T-2)**

11.3.2. Effective logistics life cycle management for non-centrally supported equipment is essential to meet mission requirements.

11.4. Life Cycle Management Plans.

11.4.1. Whether purchased for Air Force, MAJCOM, FOA, DRU, base or unit use, all mission systems and equipment will have LCMP. **(T-3)** MAJCOM/FOA/DRU/Base/Unit-acquired COTS/GOTS systems and equipment will document the sustainment support strategy in an LCMP. **(T-3)** The LCMP starts from the high-level logistics support strategy and becomes more refined. By the Production and Deployment phase (Joint Capabilities Integration & Development System - Milestone C) or Build and Test phase (Information Technology (IT) Lean Reengineering - Test Readiness Review 2), the LCMP will be very detailed.

11.4.2. In accordance with Department of the Air Force Pamphlet (DAFPAM) 63-128, *Integrated Life Cycle Management*, at a minimum, managers must consider the following LCMP sustainment elements to help manage, control, sustain, and dispose of mission systems and equipment:

11.4.2.1. Sustainment/Systems Engineering.

11.4.2.2. Design Interface.

11.4.2.3. Supply Support.

11.4.2.4. Maintenance Planning and Management.

11.4.2.5. Support Equipment/Automatic Test Systems.

11.4.2.6. Facilities.

11.4.2.7. Package, Handling, Storage, and Transportation.

11.4.2.8. Technical Data Management/TOs.

11.4.2.9. Manpower and Personnel.

11.4.2.10. Training.

11.4.2.11. Computer Resources Support.

11.4.2.12. Protection of Critical Program Information and Anti-Tamper Provisions.

11.5. MAJCOM, FOA, DRU Functions. MAJCOM, FOA, or DRUs must provide adequate logistics support availability for sustained operations for MAJCOM, FOA, or DRU-acquired COTS/GOTS systems and equipment. MAJCOM, FOA, or DRUs will:

11.5.1. Develop approved procedures necessary to procure MAJCOM/FOA/DRU/base/unit systems/equipment.

11.5.2. Develop a LCMP for MAJCOM, FOA, or DRU-acquired COTS/GOTS systems/equipment early in the acquisition process.

11.5.3. Use the LCMP and budget appropriately for the acquisition and logistics support through all phases of the system/equipment life cycle (concept through disposal).

11.5.4. Provide unit guidance and support concerning system/equipment analysis, reliability, availability, and maintainability programs. The Standard Reporting Designator (SRD) assignment will be provided by MFMs for MAJCOM, FOA, or DRU-unique systems or authorize the use of an approved contractor management information system with system/equipment control metrics.

11.5.5. Perform trend analysis and conduct special studies, when determined necessary, to identify adverse equipment performance and provide feedback to units.

11.5.6. Make units aware of contracts, acquisitions, logistics, sustainment, and disposition requirements. Other key knowledge references include: AFI 10-601, *Operational Capability Requirements Documentation and Validation*; AFI 63-101/20-101; DAFPAM 63-128; acquisition guidebooks and framework can be found at **www.dau.edu**.

11.6. Base/Unit Functions . Base/Unit must ensure funding and logistics support are available for sustained operations of unit-acquired COTS/GOTS systems/equipment. **(T-3)** Base/Unit will:

11.6.1. Use referenced publications; forms; and MAJCOM, FOA, or DRU-approved procedures to procure systems/equipment. **(T-3)**

11.6.2. Develop an LCMP for Base/Unit-acquired COTS/GOTS systems/equipment early in the acquisition process. **(T-3)**

11.6.3. Use the LCMP and budget appropriately for the acquisition, sustainment, and logistics support through all phases of the system/equipment life cycle. **(T-3)**

11.6.4. Take prompt action to resolve logistics support problems and request assistance through appropriate channels when necessary. **(T-3)**

11.7. Work Center Functions.

11.7.1. Supervisors will ensure work center logistics support management and work center project coordinator duties are accomplished and appropriately documented.

11.7.2. Supervisors will ensure support requirements for new systems, programs, and plans are established.

11.7.3. Supervisors must also assist in the preparation of the maintenance budget estimate.

11.7.4. It is important supervisors understand all aspects of work center logistics support programs. Supervisors must:

11.7.4.1. Appoint a work center project coordinator for each E&I, contractor, or self-help project to ensure project manager duties are accomplished.

11.7.4.2. Assign one or more technicians to work with E&I project and special maintenance teams. The flight commander/CoM may waive this requirement on a case-by-case basis. However, assigned technicians receive valuable training from the team and can train other work center technicians after the team departs.

11.7.4.3. Work with the MFM, flight/unit commander(s), and Senior Enlisted Leader (SEL) to resolve issues concerning manpower authorizations and allocations for the work center.

11.7.4.4. Review new work center extended Unit Manpower Document when issued.

11.7.4.5. Help prepare work center manpower change requests.

11.7.4.6. Help prepare work center manpower standard applications or reapplication. Supervisor must be familiar with the work center's manpower standards. See DAFPAM 63-128 for specific functions the work center supervisor may need to perform in support of the PM.

11.7.4.7. Provide budget estimate inputs to the Commander/Resource Advisor and monitor work center expenditures.

11.7.4.8. Develop annual budget estimates and amended estimates.

11.7.4.9. Include support for programmed systems and equipment in budget estimates.

11.7.4.10. Review support agreements to identify special support requirements. Identify training, equipment, supply, vehicles, additional manpower, or other key elements required to provide the support.

11.7.4.11. Review and reconcile locally generated supply reports (i.e., the D04, *Daily Document Register*; D11*, Commanders' Resources Information System 2;* and M30*, Monthly Due-Out Validation Listing).*

11.7.5. Work center project coordinators act as the work center focal point for all matters concerning the assigned project. Project Coordinators will:

11.7.5.1. Ensure projects are accomplished with minimum difficulty and that the work center can support systems or equipment programmed for installation or major modification.

11.7.5.2. Work closely with the program office, E&I engineers, and E&I teams.

11.7.5.3. Participate in site surveys and provide technical advice to the E&I or contractor team, work center, commander, and the program office. **(T-3)**

11.7.5.4. Coordinate with other work center project coordinators to identify and resolve conflicts (such as storage space, power requirements or programmed equipment locations). **(T-3)**

11.7.5.5. Provide continuity of logistics support preparations for the project. **(T-3)**

11.7.5.6. Review E&I project packages and amendments. **(T-3)**

11.7.5.7. Initiate engineering change requests IAW TO 00-33D-2002, *Methods and Procedures - Cyberspace Engineering Installation Activities Management*, for necessary changes to the project for deficiencies noted in the project package.

11.7.5.8. Identify changes and deficiencies before the installation begins to ensure timely project completion and to prevent delays and work stoppages during installation. **(T-3)**

11.7.5.9. Identify all enroute training, field training, and other formal training required to support programmed systems and equipment.

11.7.5.10. Coordinate with the E&I project team to obtain required technical data, test equipment, special tools, other support equipment, training, manpower, and so forth.

11.7.5.11. Coordinate with the work center test equipment monitor to ensure calibration capability is established for new test equipment authorized for programmed systems and equipment.

11.7.5.12. Appoint technicians to work with the E&I project team, monitor progress of the project, and participate in systems or equipment AIs.

11.7.5.13. Use Cyberspace Infrastructure Planning System (CIPS) to document project actions per TO 00-33D-3005, *Methods and Procedures - Managing the Cyberspace Infrastructure with the Cyberspace Infrastructure Planning Systems (CIPS)*. **(T-3)**

11.7.6. It is recommended that work center supervisors and project coordinators attend the E3AZR3DXXX 00PB, *Cyberspace Project Management* course, upon availability.

11.8. Modification Management.

11.8.1. A modification proposal is a recommendation to change the operation, use, or appearance of Air Force centrally supported equipment/systems IAW AFI 63-101/20-101. Only MAJCOM, FOA, or DRU/OSS&E authority may approve modifications, whether temporary, permanent, or for safety, to mission equipment or systems. **(T-3)** Submit modification requests via change management process. **(T-3)**

11.8.2. AF Form 1067, *Modification Proposal*. The AF Form 1067 is required for a specific improvement to maintenance or operation. The process begins with the initiator, who fills out the AF Form 1067, gains base approval, and then sends to the MAJCOM, FOA, or DRU for initial validation. The form and request are then formally routed.

11.8.2.1. Upon MAJCOM, FOA, or DRU approval, the AF Form 1067 request will be routed to the appropriate Lead Agent/Command.

11.8.2.2. Lead Agent/Commands will validate the request and route to the appropriate PM.

11.8.2.3. The PM, with assistance of equipment specialists and engineering, will review the technical validity and OSS&E impact of the request and make a determination to implement or deny the request.

Chapter 12

MATERIEL MANAGEMENT

12.1. Introduction. Materiel management is critical for mission accomplishment. Every person is responsible to manage and control all assets in the most cost effective and efficient manner.

12.1.1. Supply discipline is everyone's responsibility. Supply discipline means doing everything within one's power to do the job with minimum cost to the Air Force.

12.1.2. Supply discipline/materiel management not only refers to not spending money when it is not needed, but also making sure equipment and supplies are properly accounted for, protected from loss or damage, used for their intended purpose, and returned to the supply system or disposed of properly when no longer needed. This includes sending items to Defense Logistics Agency Disposition Services.

12.2. Logistics Readiness Squadron Liaison. The LRS liaison coordinates with support agencies and assists work center personnel by expediting all supply transactions. The LRS liaison is the primary intermediary between the work center and LRS/supply activities. Refer to AFMAN 23-122, *Materiel Management Procedures*, and TO 00-20-3, *Maintenance Processing of Repairable Property and Repair Cycle Asset Control System*.

12.2.1. The LRS liaison duties may be completed as an additional duty by work center personnel if the unit does not have a designated liaison.

12.2.2. The LRS liaison will:

12.2.2.1. Complete all LRS required training to perform these duties.

12.2.2.2. Coordinate with the LRS to set up organizational codes, shop codes, delivery destinations for property (e.g., issues and due-out releases), and to process serviceable and unserviceable turn-ins. **(T-3)**

12.2.2.3. Maintain close relations with the LRS and/or the applicable Logistics Support Center to ensure Mission Capable (MICAP)-reportable items are reported and NMC supply requirements are satisfied. **(T-3)** Ensure correct use of Force Activity Designator, Urgency of Need Designator (UND) and requisition priorities. **(T-1)** Be familiar with LRS after-hours procedures. **(T-3)**

12.2.2.4. Set up procedures to route, store, and control repair cycle assets and act as the repair cycle monitor to include Due-In-From Maintenance (DIFM), Awaiting Parts (AWP), and Equipment Inoperative for Parts for the maintenance work center. **(T-3)** Ensure proper management of repair cycle assets. **(T-3)**

12.2.2.5. Act as the monitor for the work center Low Density Level (LDL) requests. **(T-3)** The request will be completed using format designated and submitted through the LRS customer service. **(T-3)**

12.2.2.6. Coordinate with the LRS to ensure all required TCTO kits and Time Change Item (TCI) are promptly requisitioned and delivered to the maintenance work center. **(T-3)**

12.2.2.7. Coordinate with the LRS to ensure TCTO actions are accomplished on supply-controlled spares. **(T-3)**

12.2.2.8. Serve as Turn-Around (TRN) monitor. **(T-3)**

12.2.2.9. Advise the maintenance work center on the use of repair cycle asset initial issue procedures. **(T-3)**

12.3. General Materiel Management.

12.3.1. Supervisors ensure cost-effective mission support through the proper use and management of supply assets, support equipment, and local purchase materials.

12.3.2. Supervisor will:

12.3.2.1. Comply with the Precious Metals Recovery program IAW AFI 23-101, *Materiel Management Policy*. **(T-0)**

12.3.2.2. Use appropriate AIS to requisition parts directly whenever possible. **(T-1)**

12.3.2.3. Use the direct call-in method between the work center and LRS customer service/demand processing when IMDS or Integrated Logistics Supply System (ILS-S) are not available.

12.3.2.4. Use AF Form 2005, *Issue/Turn-In Request*, or any other LRS-approved control register to document requests for direct demands on supply. **(T-3)** Automated supply log from IMDS is authorized. Verify UND "A" and "B" requests prior to call-in. **(T-3)**

12.3.2.5. Properly manage repair cycle assets. **(T-3)**

12.3.2.6. Notify the DIFM monitor of status changes for assets kept in the work center.

12.3.2.7. Process repaired assets and review associated NRTS documentation IAW TO 00-20-2. **(T-3)**

12.3.2.8. Process repairable property under warranty or guarantee IAW TO 00-20-2. **(T-3)**

12.3.2.9. Submit TRNs IAW TO 00-20-3 and AFMAN 23-122. **(T-2)**

12.3.2.10. Coordinate with LRS to ensure RSP assets requiring functional checks are identified. **(T-3)** Notify LRS when functional checks are completed. **(T-3)**

12.3.2.11. Submit PQDRs or reports of discrepancy when deficient materiel is received IAW local procedures or follow the manufacturer's instruction. **(T-3)**

12.3.2.12. Monitor and control bench stock IAW AFMAN 23-122.

12.3.2.13. Review applicable Allowance Standards to identify additions, deletions, and changes to work center support equipment authorizations. **(T-3)** Perform AS review biennially. Submit recommended changes IAW AFMAN 23-122. **(T-3)**

12.3.2.14. Verify TCTO kits are correct and complete when received from the LRS. **(T-3)**

12.3.2.15. Notify property custodians when TCTO actions result in equipment national stock number changes as applicable.

12.3.2.16. Identify preplanned items, TCI, and TCTOs. **(T-3)** Complete required actions when scheduled. **(T-3)**

12.3.2.17. When authorized by the commander (or applicable level IAW local organizational structure), establish, and manage work order residue. Maintain a list of items

on work order residue and develop procedures to encourage consumption of work order residue prior to using bench stock.

12.3.2.18. Develop written guidance to monitor and control shop/operating stocks IAW AFI 23-101. For explanatory purposes, shop/operating stocks are those items (e.g., General Services Administration (GSA) purchased cable stocks, connectors, hardware) purchased with Air Force funds to fulfill mission requirements (e.g., PMIs, equipment maintenance, jobs) that cannot be loaded on bench stock or other accounts. **Note:** Work center supervisors should establish procedures covering part number, purchasing information, condition, etc.

12.3.2.19. Verify items critical to deploying equipment are stocked, maintained, and secured. Consumable items will not be used for in-garrison requirements.

12.3.2.20. Verify the property custodian completes and updates the applicable report to address incoming or outgoing equipment/systems when E&I, self-help, installation, or removal projects are complete. **(T-3)**

12.3.2.21. Manage forward supply point assets IAW AFMAN 23-122. **(T-3)**

12.3.2.22. Comply with ESD storage procedures IAW AFI 23-101. **(T-3)**

12.3.2.23. For Air Force-supplied/depot-supported systems, ensure that all spare assets supplied during installation/modification are brought to record and added to forward supply point. **(T-3)**

12.3.2.24. Return all useful consumable and non-consumable materials not identified as shop stock/work order residue to LRS/Materiel Management Activity IAW AFMAN 23-122. **(T-3)**

12.3.2.25. Coordinate with the local LRS, Equipment Accountability Officer (EAO), and work center personnel to identify deploying assets. **(T-3)**

12.3.2.26. Identify all deploying assets to the applicable base-level Equipment Control Officer (ECO) upon receipt of mission tasking order during the pre-deployment actions. **(T-3)** For supply assets, follow the LRS procedures. **(T-3)**

12.3.2.27. Verify lists of deploying assets accompany the UTCs and the deploying property custodian to the Area of Responsibility (AOR). **(T-3)** Start asset transfers as soon as possible depending on the AOR policy and mission-tasking instructions. Custodians will complete the required training prior to deploying. **(T-3)**

12.3.2.28. Upon return to home station, verify assets that were returned to the LRS, EAO, and ECO. **(T-3)**

12.3.2.29. Dispose and demilitarize designated materials IAW AFMAN 23-122, and Air Force Handbook (AFH) 23-123, Volume 1, *Materiel Management Reference Information*. **(T-3)**

12.3.2.30. Authorize and manage equipment per AFH 23-123, Volume 3, *Air Force Equipment Management*. **(T-3)**

Chapter 13

PUBLICATION MANAGEMENT

13.1. Introduction.

13.1.1. Instructions, manuals, and technical publications are essential for maintenance organizations to function properly and to provide the maintenance activity with accurate information.

13.1.2. Technical publications include TIs/TOs/TMs and other specialized publications. Set up and maintain these publications IAW DAFI 90-160, *Publications and Forms Management* and TO 00-5 series publications.

13.1.3. Everyone who reports changes to technical data for centrally managed and procured equipment, will use AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply* or Enhanced Technical Information Management System (ETIMS) equivalent. **(T-3)**

13.2. Work Center/Section/Unit Type Code Publication Management.

A supervisor must:

13.2.1. Provide availability and strictly enforce adherence to and compliance with instructions, technical publications, and supplements. **(T-3)**

13.2.2. Establish procedures for shipping instructions, technical publications, and supplements to support mobility requirements. **(T-3)**

13.3. Technical Order Distribution and Control.

13.3.1. This section pertains to necessary actions for the distribution and control of TOs within the Air Force.

13.3.2. The TODO responsibilities are to verify the adequacy and accuracy of TO publications in the maintenance activity and will manage responsibilities IAW TO 00-5-1. **(T-3)** TODOs will:

13.3.2.1. Provide special attention to all electronically transmitted TCTOs and TOs due to the urgent nature of this type of change. **(T-3)**

13.3.2.2. Provide current methods and procedures TOs, TCTOs, evaluation work cards, work unit code (WUC) manuals, and other TMs to the entire maintenance activity. The primary consideration is availability of TOs, with minimal duplication.

13.3.2.3. Properly manage all Electronic Tools (E-Tools) computers and work closely with network representatives to ensure hardware remains fully operational and network requirements are fully met to support real-time updates and the most current status of technical data and TCTOs as required by TO 00-5-1. **(T-3)** Refer to TO 31S5-4-ETool-1, *ETool and Commercial Mobile Device Setup and Management*, for guidance on set-up and management of E-Tools.

13.3.2.4. Route equipment or policy TO waiver requests IAW TO 00-5-1.

13.4. Local Publications.

13.4.1. LWCs, local job guides, local work card page supplements, and local checklists are created by the using activity and approved by the group commander. **(T-3)** PMI requirements are normally shown in work card sets, or maintenance TMs. Refer to TO 00-5-1 for guidance on the development and maintenance of LWC.

13.4.2. COTS items, especially electronic components, are bought and do not have PMIs published in the TO System. In this event, follow the manufacturer's recommended maintenance schedules provided in the technical guidance or complete PMIs per flight commander, CoM, or equivalent's direction. LWCs may be developed.

13.4.3. The flight commander, CoM, or equivalent; will determine if PMIs are to be accomplished in absence of commercial manuals or publications. If there is not a flight commander, CoM, or equivalent; then this duty will be completed by the unit commander. Refer to TO 00-5-1 and TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy, and Procedures*. Consider specifications for mean-time-between-failure, operational requirements, corrosion control, and other checks.

13.5. Time Change Item Management.

13.5.1. TCI management includes such items as TCTOs and other Air Force/MAJCOM /FOA/DRU-directed modifications and inspections that provide units with instructions for completing a one-time change, modification, or inspection of equipment.

13.5.2. All documentation directing modifications and inspections (with the exception of immediate and urgent action documentation) are considered scheduled maintenance and will be integrated into maintenance planning cycles. **(T-3)**

13.5.3. Consider concurrent accomplishment of modification and inspection work with other scheduled or unscheduled maintenance actions. When practicable, all Peacetime Operating Stock, spares, and RSP assets will be modified before use or installed in equipment. **(T-3)**

13.5.4. Time changes will be managed IAW TO 00-5-15 and specific MAJCOM, FOA, or DRU instructions. **(T-3)** Detailed guidance and codes for processing TCTOs are contained in Introduction to Integrated Maintenance Data System Central Database, and AFCSM 21-568, Volume 2.

13.5.5. For program office-managed systems with no System Manager support, refer to guidance for COTS/GOTS manuals/modifications in TO 00-5-1.

13.5.5.1. Organizations must establish an alternate method to process TCIs including TCTO data **(T-3)** TCTO acknowledgment forms will be completed per TCTO instructions and maintain copy of completed form. **(T-3)** Data will be entered into IMDS when restored for units experiencing a delay. **(T-3)**

13.5.5.2. Service bulletin requirements are addressed in TO 00-5-1 and TO 00-5-15.

13.5.6. The TODO will initiate TCTO processing actions IAW TO 00-5-15. **(T-3)**

13.5.6.1. Work center TODA will review each incoming TCTO and advise the work center supervisor of its applicability. **Note:** If the work center has a TODO, that person may also fulfill TODA function.

13.5.6.2. For RMC-maintained systems, the RMC will coordinate with the RAWS work center to process, complete, and document completion of all TCTOs.

13.5.6.3. For systems not maintained by the RMC, the work center will interface directly with unit TODO, determine applicability, complete and document TCTOs.

13.5.7. Work centers will review all applicable -6 scheduled inspection and maintenance requirements manuals and -6WC work cards to determine if preplanned and TCIs are required. **(T-3)** When requirements exist, the work center will provide the appropriate authority the information needed to initiate suspense procedures. **(T-3)**

13.6. Federal Aviation Administration Technical Manuals Management.

13.6.1. The TODA will ensure FAA TIs, Joint Orders (JOs), System Support Modifications (SSMs), and System Documentation Releases (SDRs) are current. **(T-3) Note:** If the work center has a TODO, that person may also fulfill TODA functions.

13.6.2. All FAA documents should have a corresponding TO cover page in ETIMS. Users will be directed to the Aeronautical Data Exchange (ADX) Air Force community, at **www.adx.faa.gov**.

13.6.3. FAA TIs and JOs will be reviewed weekly IAW TO 00-5-1 to ensure all SDRs are being utilized. **(T-3)** If hard copy, TODO will document last review on front cover. **(T-3)**

13.6.4. SSMs are similar to TCTOs and are the method that the FAA utilizes to modify or update existing equipment. For Air Force operated systems, SSMs will be converted to a TCTO and distributed via ETIMS. **(T-3)** SSMs will not be performed until directed to do so via an Air Force TCTO. **(T-3)**

13.7. Air Force Maintenance Quality Control Checklist.

13.7.1. AFMQCCs are used to evaluate processes, equipment condition, maintenance quality, and maintenance management effectiveness. AFMQCCs are created using a standardized format. AFMQCCs and the standardized template can be accessed on the AFFSA XAR SharePoint® page. See **Attachment 4** for a listing of AFMQCCs and link to SharePoint®.

13.7.1.1. AFMQCCs for RAWS can be used in the absence of an Air Force-wide standardized checklist governing a particular process, function, or piece of equipment.

13.7.1.2. AFMQCCs do not prescribe nor establish Air Force-wide policy.

13.7.1.3. AFMQCCs must not be used to operate, maintain (e.g., tune, align, adjust) or troubleshoot equipment or processes. **(T-3)**

13.7.1.4. Equipment or management evaluations will not be limited to the checks in the AFMQCCs. MAJCOM, FOA, or DRUs are authorized to develop supplements to AFMQCCs, supplements to MQCCs, and Local Maintenance Quality Control Checklist (LMQCC) to check additional items based on operational needs. Forward proposed revisions of AFMQCCs to the checklist OPR.

13.7.1.5. Complete applicable AFMQCCs IAW **Attachment 3**.

13.7.1.6. AFFSA centrally manages the RAWS AFMQCC program for standard processes and systems (e.g., used by more than one MAJCOM, FOA, or DRU). AFFSA maintains AFMQCCs through the following:

13.7.1.6.1. Maintaining a record copy of all published RAWS AFMQCCs.

13.7.1.6.2. Coordinating new AFMQCCs with appropriate MAJCOM, FOA, or DRUs to determine Air Force-wide applicability.

13.7.1.6.3. Assigning AFMQCC control numbers as appropriate and forward new AFMQCCs to the CFM for approval.

13.7.1.6.4. Publishing AFMQCCs and changes as required with approval from the CFM.

13.7.1.6.5. Assigning Office of Coordinating Responsibilities (OCRs) for AFMQCCs. **Note:** Lead Agent/Commands may designate OCRs, and MAJCOM OCRs may appoint unit level OCRs for appropriate AFMQCCs, but MAJCOM, FOA, or DRUs retain overall control for their respective AFMQCCs.

13.7.1.6.6. Coordinating annual reviews of AFMQCCs with appropriate OCRs for continued need, accuracy, and currency.

13.7.1.6.7. Make copies of all current AFMQCCs available on the AFFSA XAR SharePoint®.

13.7.1.7. AFMQCC OPRs will:

13.7.1.7.1. Format AFMQCCs.

13.7.1.7.2. Review appropriate AFMQCCs annually for continued need, accuracy, and currency. Provide AFFSA/XA with changes and updates as required.

13.7.1.7.3. Evaluate and validate AFMQCCs before forwarding to AFFSA/XA for approval and publication.

13.7.1.7.4. Forward changes (except for minor punctuation and spelling errors) as AFMQCC revisions. To revise an AFMQCC, the complete AFMQCC is re-accomplished and processed in the same manner as new AFMQCCs.

13.7.1.7.5. Send changes to AFFSA/XA for coordination. Comply with MAJCOM, FOA, DRU, and/or local procedures for changing their AFMQCCs.

13.7.2. Proposed Air Force Maintenance Quality Control Checklist.

13.7.2.1. Accomplishing the evaluation and field-testing for proposed AFMQCCs by the lead MAJCOM, FOA, or DRU is required prior to forwarding them to AFFSA/XA.

13.7.2.2. Include the projected number of MAJCOM, FOA, or DRUs and users for proposed AFMQCCs.

13.7.3. Local Maintenance Quality Control Checklist.

13.7.3.1. Group Commander will approve use and processing of Local Maintenance Quality Control Checklists (LMQCCs). **(T-3) Note:** This responsibility may be delegated no lower than the flight commander. Approved LMQCCs must be forwarded to respective MAJCOM MFM/FAM. **(T-3)**

13.7.3.2. LMQCCs will:

13.7.3.2.1. Be clearly marked or labeled as LMQCCs.

13.7.3.2.2. Not be retained or used after an Air Force, MAJCOM, FOA, or DRU MQCC is published on the same item of equipment, grouping of equipment (General AFMQCC) or management function.

13.7.3.2.3. Supplement Air Force, MAJCOM, FOA, or DRU MQCCs if local requirements dictate.

13.7.4. Checklist Format.

13.7.4.1. The title block of the AFMQCC contains the process, function, or nomenclature and noun of the equipment (normally the end item or system).

13.7.4.2. The "Item" section of the AFMQCC will contain checks to determine overall performance, operation, and maintenance practices. Each item is limited to one sentence (if possible). Followed by check boxes to answer “Complies (C)”, “Not In Compliance (NIC)”, or “Not Applicable (NA)”.

13.7.4.3. Do NOT duplicate individual checklist items currently published in any existing AFMQCC series checklists.

13.7.4.4. Do NOT use specific equipment parameter values (e.g., voltage and frequency measurements) in AFMQCC items.

13.7.4.5. Provide specific references (e.g., publication number and paragraph) for each evaluation item to identify specific parameters or configurations.

13.7.4.6. Provide OPR name and office symbol.

13.8. Air Force Maintenance Special Instructions.

13.8.1. This section establishes the procedures to develop, publish, distribute, implement, file, and dispose of a series of specialized publications for RAWS equipment. See **Attachment 5** for a listing of AFMSIs.

13.8.1.1. AFMSIs are not published for use in place of Air Force TOs, FAA TIs, or JOs.

13.8.1.2. AFMSIs provide a means to issue inspection and servicing requirements, operational performance checks, and special maintenance instructions for which formal TO procedures are not published. They may also provide the means to issue optional or temporary modifications. AFMSIs will only be published for equipment that is applicable to more than one MAJCOM, FOA, or DRU. **(T-3)**

13.8.1.3. AFMSIs are published only after determining that the supporting Air Logistics Center (ALC) or contracted function cannot produce the required technical data or implement a permanent modification.

13.8.2. Air Force Flight Standards Agency Operations, Procedures, and Training Functions.

13.8.2.1. Determine the needs, requirements, as well as process and publish proposed AFMSIs and changes.

13.8.2.2. Maintain record copies of AFMSIs.

13.8.2.3. Format modification-type AFMSIs as full-page documents. PMI-type procedures may be formatted as TO -6WC work cards (to fit six-hole binders) or as full-page documents, per OPR decision.

13.8.2.4. Submit proposed AFMSIs, recommended changes, additions, or deletions through command channels to AFFSA in an electronic Word format. AFMSI OPRs will submit approved changes to AFFSA/XA.

13.8.2.4.1. AFMSIs are numbered in three series. Use the 100-series for instructions of a general nature, 200-series for special maintenance instructions and temporary modifications; and 300-series for inspection, servicing, lubrication requirements, and operational performance checks.

13.8.2.4.2. AFMSIs can be accessed on the AFFSA XAR SharePoint® page. This website may be accessed through the RAWS Portal page at **https://www.my.af.mil/gcss-af/USAF/site/RAWS**.

13.8.2.4.3. Implement AFMSIs on receipt unless otherwise directed. Schedule modifications, inspections, servicing, lubricating, and operational checks in the same manner as -6WC TOs/TCTOs.

13.8.2.5. Document accomplishment of AFMSIs as follows:

13.8.2.5.1. Scheduled Periodic Inspection, Servicing, Lubrication, and Operational Performance AFMSIs. Use the same procedures as those used to document -6WC TO work cards.

13.8.2.5.2. Special Maintenance Instructions/Temporary Modifications. Upon completion of the AFMSIs procedures, make appropriate entry in approved AIS historical record.

13.8.2.6. Rescind AFMSIs when no longer required or when material is incorporated into the TO. When an AFMSI should be rescinded, notify AFFSA/XA through command channels.

Chapter 14

TMDE AND TOOLS MANAGEMENT

14.1. Introduction.

14.1.1. TMDE is critical to proper operation and maintenance of mission systems. Out-of-tolerance TMDE can cause mission systems to be misaligned or erroneously declared unserviceable. Man-hours and parts may be expended unnecessarily to restore already serviceable equipment. Personnel who use TMDE are required to understand their function and the procedures for the use and care of TMDE. Proper use, handling, storage, transportation, and calibration are essential to ensure TMDE accurately performs its function.

14.1.2. TMDE is defined as any device used to maintain, evaluate, measure, calibrate, diagnose, or otherwise examine materials, supplies, equipment, and systems to identify or isolate actual or potential malfunction/discrepancies/deficiencies or decide if they meet operational specification established in technical publications. See TO 00-20-14 for details.

14.1.3. TMDE and Tool management applies to all sections supporting maintenance. All technicians will be knowledgeable of TO 00-25-234; TO 00-20-14; AFMAN 23-122; TO 33-1-27, *Logistic Support of Test Measurement and Diagnostic Equipment in FSC*; TO 33-1-32, *General Instructions for Input Power Wiring of Electrical/Electronic Support Equipment*, and any applicable commercial manuals/guides.

14.1.4. All work center technicians will complete and document AFJQS XXXXX-201P, *Work Center Test Equipment Management*, IAW DAFMAN 36-2689. If local tasks are required, ensure tasks are identified, added to the training plan, and training is conducted.

14.1.5. Work centers will establish limited calibration requirements whenever possible. This eliminates time spent to calibrate unused functions or ranges and expedites return of the TMDE to the work center. However, before establishing limited calibration, consider the following:

14.1.5.1. Determine the functions and ranges needed for all mission systems and equipment supported by the TMDE in the work center. TMDE needs to be calibrated only for those functions and ranges used.

14.1.5.2. TMDE shared by two or more work centers are required to be calibrated for the ranges and tolerances required by each using work center.

14.1.5.3. Calibration limitations must be approved by designated 7-level craftsman/civilian equivalents, after verifying all, or portions of main functions and ranges meet user maintenance requirements.

14.2. General Test, Measurement and Diagnostic Equipment Requirements.

14.2.1. Priority calibration or repair will be requested through the work center TMDE monitor, only when justified to meet urgent mission requirements. TMDE will be picked up from Precision Measurement Equipment Laboratory (PMEL) as soon as the priority calibration is completed.

14.2.2. An extension of the calibration due date will be requested through the work center TMDE monitor if loss of the TMDE delays or prevents critical mission accomplishment.

14.2.3. Training will be provided or arranged for work center personnel on proper use and care of TMDE, including how to determine calibration conditions and limitations.

14.2.4. The work center project coordinator must be advised of problems in obtaining or calibrating TMDE needed to install or maintain mission systems scheduled for installation.

14.2.5. Commander or designated representative/equivalent must be notified when the lack of TMDE impacts completion of the work center's mission.

14.2.5.1. Work centers must perform TMDE user applications IAW TO 00-20-14.

14.2.5.2. Personnel are responsible to provide proper care, handling, cleanliness, and transportation of TMDE IAW TO 00-20-14.

14.2.6. Replacement TMDE may be required if PMEL is unable to repair an item of TMDE, or when an item is condemned or designated as obsolete. When new or replacement TMDE is required, work center TMDE monitors will:

14.2.6.1. Coordinate the acceptability of substitute tools with the work center supervisor or approved 7-level.

14.2.6.2. Notify the work center supervisor and property custodian when TMDE items are slated to be turned in to or received from supply.

14.2.6.3. Obtain applicable TOs for new TMDE and dispose of TOs for TMDE which has been turned in.

14.2.7. Recommend establishing TMDE inventory tracking system that facilitates quick inventory and accountability of TMDE assets.

14.3. General Tool Requirements.

14.3.1. Tool kits are defined as all government-purchased tools, to include tools provided by government-paid contractor, utilized to perform RAWS maintenance activities (restore/sustain/maintain systems). In this publication, the term "tool" refers to all types of tool kits as well as a basic tool (e.g., Xcelite®, drill, and socket kits).

14.3.2. Tools are defined as any instrument or apparatus used in performing an operation or task.

14.3.3. The objectives of the Tool Management Program are to reduce replacement costs through effective control and accountability of assets and minimize unsafe acts.

14.4. Work Center Tool Management.

14.4.1. This section pertains to the duties and functions at the work center level and applies to deployable tool kits as well as home station kits IAW TO 32-1-101, *Use and Care of Hand Tools And Measuring Tools*.

14.4.2. The tool program will address the following areas, as a minimum:

14.4.2.1. Appointment of a tool custodian and alternate in writing. The unit may appoint a unit level tool custodian and alternate if desired instead of individual work center custodians.

14.4.2.2. Procedures addressing effective tool control and accountability.

14.4.2.3. Procedures addressing tracking/using UTC/mobility tool kits.

14.4.2.4. Managing industrial shop machinery tools and accessories/attachments (e.g., Hilti, band saws, arbors, chucks, portable vise, blades, Pionjars) that normally do not fit within the tool kit.

14.4.2.5. Establishing tool inventory tracking system that facilitates quick inventory and accountability of tools.

14.4.2.6. Procedures addressing lost, broken, or unserviceable tool replacement.

14.4.2.7. Recurring inspection schedule for all tools and tool kits to ensure serviceability.

14.4.2.7.1. Inventory tools, tool kits/boxes prior to first use of the day. Inventory all used tools, tool kits/boxes again at the end of the shift. If not used for the day, then no inventory is required.

14.4.2.7.2. Inventory all tools, tool kits/boxes at least quarterly, regardless of usage.

14.4.2.8. Procedures addressing management of tools with warranties and/or guarantees. Refer to DAFMAN 17-1203, *Information Technology (IT) Asset Management (ITAM)*, for IT transactions; TO 00-20-3, for AFMC-managed systems.

14.4.2.9. Procedures addressing control and management of replacement, expendable and consumable hand tools, and other items contained in tool kits or tools (e.g., connector pins, extraction pins, alcohol wipes).

14.4.2.10. Procedures addressing accountability, control, and use of E-Tools. See DAFMAN 17-1203 for further guidance.

14.4.2.11. Procedures addressing positive control of rags when used in and around the flight line.

14.4.2.12. Procedures addressing management of locally manufactured, developed, or modified tools and other support equipment. All locally manufactured, developed, or modified tools and equipment must be approved by the commander/designated representative. Examples of these items are test fixtures. This procedure does not apply to local manufacture, modification or design of tools authorized in specific technical data.

14.4.3. The work center will establish procedures for tracking and using UTC/mobility tool kits as follows:

14.4.3.1. Inspect/inventory and document master tool inventory on UTC/mobility tool kits/tools when opened, prior to resealing for storage, or at a minimum, quarterly in garrison. If resources do not permit designated UTC/mobility tool kits, garrison kits can be used.

14.4.3.2. Inventory and seal the UTC/mobility tool kits to eliminate use while in garrison.

14.4.3.3. The seal on the UTC/mobility tool kits will show date it was sealed and who completed inventory.

14.4.3.4. Mark the UTC/mobility toolboxes IAW AFI 10-403 (e.g., packing list). **(T-3)**

14.4.4. When addressing the management of industrial shop machinery tools and accessories/attachments (e.g., Hilti, band saws, arbors, chucks, portable vise, blades, Pionjars) that normally do not fit within the tool kit the work center will:

14.4.4.1. Develop master tool inventory reflecting all industrial shop machinery tools and accessories/attachments that are not stored within the tool's container. Inventory includes storage location of tool.

14.4.4.2. If a tool has multiple pieces stored within its container, create an inventory of the contents (e.g., Hilti's drill box contains one drill, two 1/2-inch and one 3/4-inch 6- inch bits, and 3 ounces of lubricating oil).

14.4.5. Consider the following when establishing a tool inventory tracking system that facilitates quick inventory and accountability of tools:

14.4.5.1. Design tool kits to provide a quick inventory and accountability of tools.

14.4.5.2. Develop a simple inventory method, a "show" (e.g., a shadow of the tool) and "know" (knowledge of tool or kit location) concept.

14.4.5.3. Establish tool kit contents for ease of inventory. Tool kit contents should be standardized to the maximum extent possible within functional areas within a unit that have similar missions.

14.4.5.4. Each tool, equipment item, or consumable contained in a tool kit that can have an assigned location identified will have one of the following: inlay cuts in the shape of the item, shadowed layout, label, silhouette, or drawer/location assignment. No more than one item will be stored in a cutout, shadow, or silhouette except for tools issued in sets such as drill bits, Allen wrenches, apexes, or paired items (e.g., gloves, booties).

14.4.5.5. Utility tool kits (e.g., green tool bags, briefcase kits) do not have assigned/marked individual tool locations within the utility tool kit; however, the master inventory must reflect where the utility tool kits are stored when not in use.

Chapter 15

CORROSION PREVENTION AND CONTROL PROGRAM

15.1. Introduction.

15.1.1. Corrosion is a natural phenomenon that attacks metal by electrochemical action and converts the metal into a metallic compound, such as an oxide, hydroxide, or sulfate. Corrosion occurs because of the tendency for metals to return to their natural state.

15.1.2. Corrosion, if left unchecked, progressively degrades an item's strength until its structure can no longer sustain its design load and/or causes malfunctions. Unchecked corrosion can result in excessive maintenance and repair as well as system downtime and product contamination.

15.2. Maintenance Work Center Functions.

15.2.1. Effective and timely equipment corrosion prevention and control actions will be performed IAW TO 31Z-10-37, *Corrosion Prevention and Protection*, applicable TM/TO, and other command instructions. **(T-3)**

15.2.2. All work center technicians will complete AFJQS XXXX-201C, *Corrosion Prevention and Control*, and document in training records IAW DAFMAN 36-2689. **(T-3)** If local tasks are required, tasks will be identified, added to the training plan, and training conducted.

15.2.3. Submissions that address the type, extent, and repair/treatment of corrosion on equipment will be provided through accurate and timely maintenance and historical documentation.

15.2.4. If deemed necessary, research, develop, and publish corrosion-control procedures tailored to work center unique needs or high corrosion prone areas. **Note:** It is important to identify corrosion-prone areas, such as dissimilar metals, fasteners, hinges, latches, rivets, mating surfaces, crevices, faying surface, fillet sealing, spot-wielding assemblies, and water entrapment areas.

15.2.5. Equipment corrosion-control PMI intervals will be modified/changed to meet the corrosion environment in which the equipment will be operating. Some locations may need to inspect equipment more frequently.

15.2.6. LWCs and PMIs will be verified for equipment containing clear corrosion-control inspection requirements and procedures. Consider pertinent factors including operational environment, cost, resources, availability, and probability to establish inspection interval.

15.2.7. Guidance and resolution of corrosion problems beyond the unit's capability to repair will be coordinated with parent MFM/MAJCOM FAM. **(T-3)**

Chapter 16

HISTORICAL RECORD MANAGEMENT

16.1. Introduction.

16.1.1. This chapter prescribes general requirements and procedures for the administration of maintenance documents, equipment inspections, equipment transfers, and equipment historical data. Work center facility, systems installation, and equipment records are historical documentation that constitute a permanent record of significant maintenance actions or significant changes to the facility or system.

16.1.2. Historical records must remain with each equipment or system throughout its life cycle. **(T-3)** They are designed to provide technicians and System Managers with an accurate portrayal of significant actions, modifications, issues, and overhauls. System/equipment historical files will be maintained in the work center in a centralized file IAW AFI 33-322, or other applicable directives. **(T-1)**

16.1.3. Records will be disposed IAW Air Force Records Disposition Schedule (RDS) in AFRIMS, or other applicable directives. **(T-1)** Electronic files are authorized. For classified reporting, the approved Air Force/MAJCOM/FOA/DRU security classification guide will be followed for applicable equipment/system. **(T-1)**

16.2. Overview.

16.2.1. Units will develop master inventories based on shipping, acceptance, catalog, and other applicable documents for Air Force, MAJCOM, FOA, DRU, or locally procured COTS/GOTS equipment if an AFTO Form 470 has not been established per TO 00-35D-2. **(T-3)**

16.2.2. Historical records, AFTO Form 95, *Significant Historical Data*, IMDS history files, or other records will be required on all MICAP-reportable equipment, command-supported equipment, and other equipment as designated by the System Manager/PM. **(T-1)**

16.2.3. For ALC-managed systems/equipment, AFTO Forms 95 or IMDS history files will be required on all SRD-coded systems/equipment except for Communications Security equipment, command-supported equipment, and other equipment as designated by the System Manager/PM. **(T-1)**

16.2.4. For non-ALC-managed systems/equipment, historical records or equivalent information will be maintained utilizing AFTO Form 95. **(T-1)** Each item does not require its own record; technicians may establish records based on location. Records may be maintained in either electronic (preferred) or manual forms.

16.2.5. All equipment/systems tracked in IMDS must utilize the IMDS history files and record all significant maintenance actions; especially TCI, TCTOs, and Time Compliance Network Orders. **(T-1)** In addition, all tactical and mobile equipment will require historical records. **(T-1)** The records or record duplicates must accompany the equipment when deployed. **(T-1)**

16.2.6. Historical records must accompany equipment sent to depot for repair/overhaul and transferred between units. **(T-1)**

16.3. Work Center Functions. Work centers ensure facility, systems installation, and equipment records are current and available. Work centers will:

16.3.1. Take the following actions to conduct an annual review of all historical records.

16.3.1.1. Verify entries were made IAW **paragraph 16.5** and TO 00-20-1. **(T-3)**

16.3.1.2. Report trending issues, to include reoccurring adjustments and outages, to the applicable MAJCOM, FOA, or DRU.

16.3.1.3. Create a historical entry in records showing that the annual review was conducted, and all required actions have been accurately completed.

16.3.2. Use IMDS to collect historical data. If IMDS is not available, manually collect the information with enough detail to satisfy IMDS reporting requirements when the system is back up.

16.3.3. Use AFTO Form 95 or its automated equivalent.

16.3.4. Create historical data upon the issuance of the first TCTO or the occurrence of the first condition or incident requiring data entries.

16.3.5. Maintain permanent history and historical files. **(T-1)**

16.3.5.1. Maintain a permanent history on end items listed on the SRD table in IMDS, command-supported equipment designated by the MAJCOM, FOA, or DRU; and other critical systems assigned to the organization that are not tracked in IMDS. **(T-1)**

16.3.5.2. Maintain system/equipment historical files in the work center in a centralized file IAW AFI 33-322 and dispose of IAW the Air Force's RDS in AFRIMS. **(T-1)** Electronic files are authorized. **Note:** RMC-supported equipment historical file will be maintained by RMC personnel.

16.3.5.3. Establish and maintain an individual historical file IAW AFI 33-322 for each designated equipment end item per applicable Air Force directive. **(T-1)**

16.3.5.4. Centrally locate historical document files in the documentation activity of the unit possessing/maintaining the equipment (e.g., one file cabinet). Online computer systems are considered centrally located files and authorized.

16.3.5.5. Include hard copy or electronic historical document files for subsystems and components in equipment end item files or maintain them in a separate file.

16.3.5.6. Consolidate files for noncomplex items into a single folder or a series of folders. Each individual file will contain historical documents, operational data, maintenance status documents, and reports that reflect current status.

16.3.6. Document BCE facility grounding and lightning protection checks in the facility record or historical files. **(T-3)** Work centers will ensure ground check frequency of 21 months is maintained IAW Air Force Manual (AFMAN) 32-1065, Table A2.1. **(T-3)** Work centers will schedule and complete grounding and lightning protection for facilities that are maintained by the RMCs. **(T-3) Note:** Work centers will forward grounding and lightning protection check documents to the RMC for RMC supported equipment. **(T-3)** RMC will add documents to facility record or historical files. **(T-3)**

16.3.7. Transfer documents with all equipment being transferred to another organization. **(T-3)**

16.3.7.1. Verify all current maintenance and historical documents or computer-generated equivalents accompany the equipment or are forwarded to the new maintenance activity electronically, no later than the same day the transfer occurs. **(T-3)** Records may be burned onto a Compact Disk-Read Only Memory (CD-ROM) or Digital Versatile Disc-Read Only Memory (DVD-ROM).

16.3.7.2. Ensure applicable documents are placed in a waterproof envelope and securely attached to the component, item, or container, when end items that require separate historical files are transferred as separate units. **(T-3)** If the item is not packaged or crated, the waterproof envelope will be securely attached to the item in a location that will provide the best protection from exposure to the elements and prevent loss during handling and/or mail a copy to the gaining organization to prevent loss. **(T-3)**

16.3.8. Use and maintain TCTO information. **(T-3)**

16.3.8.1. Print a copy of the Automated History Entry (AHE) record or provide an electronic copy in the applicable electronic-file in units using IMDS AHE. **(T-3)** Ensure the history, whether an electronic version or paper copy, accompanies the equipment/system being turned in or transferred to another unit or going to depot. **(T-3)** **Note:** Do not delete the AHE in IMDS if the equipment is being transferred. Instead, transfer the records to the gaining organization IAW AFCSM 21-567, *Equipment/Personnel Transfer Software User Manual*. **(T-3)**

16.3.8.2. Verify equipment/systems gained and loaded into IMDS have the AHE block annotated. **(T-3)** See AFCSM 21-568, Volume 2, for details. This allows the TCTO history to be recorded in the AHE.

16.3.8.3. Print a copy of the TCTO history from the IMDS TCTO subsystem and attach it to the AFTO Form 95 in units using manual AFTO Form 95 instead of AHE. **(T-3)**

16.3.9. Print or type all entries on historical documents, with the exception of signatures (when available, electronic signatures are authorized). If electronic signatures are not available in IMDS or approved form and the record is maintained electronically, the first name, last name, rank, organization/office symbol will be included.

16.3.10. Immediately notify the shipping/losing organization when equipment is received, and the historical documents are missing or contain incomplete information.

16.3.10.1. The shipping/losing organization will promptly forward the missing documents or provide all available information for completion of the documents for initiation of new documents. **(T-3)**

16.3.10.2. Contact the applicable System Manager through the MAJCOM, FOA, or DRU for instructions when the documents cannot be located, and the asset serviceability cannot be readily assessed. **(T-3)**

16.3.11. Maintain historical documents on equipment in extended storage. **(T-1)**

16.3.11.1. Historical documents will be filed with the equipment or in the centralized file if the equipment is stored at the unit/base level. **(T-1)**

16.3.11.2. Prepare up-to-date maintenance and historical documentation for each piece of equipment being returned to service. **(T-3)**

16.3.11.3. When equipment is maintained in extended storage at an organization or activity, the commander may request a waiver through the respective MAJCOM, FOA, or DRU on a case-by-case basis. All approved waivers are to be maintained in the equipment's historical documents.

16.3.12. Record all dates on the required forms using 8 digits in the order of year, month, and day. Example: YYYYMMDD, 20160418 for 18 Apr 2016. **Note:** Approved automated forms in IMDS may deviate from this procedure based upon system standards. Handwritten formats may follow the IMDS format.

16.3.13. Only use electronic signatures to sign off maintenance documentation where the records are protected with password and ID and authorization is limited to those individuals as outlined in the 00-20-series TMs or other directives.

16.3.14. Ensure the processing of documents during depot maintenance follows the correct procedures. **(T-3)** Documents will be processed IAW TO 00-25-108 and the 00-20-series TMs. **(T-3)** Personnel preparing organic or contract work statements will ensure that the provisions of these TMs are included in all applicable maintenance contracts. **(T-2)**

16.3.15. Maintain records on mobile equipment. **(T-1)**

16.3.15.1. Maintain one AFTO Form 95 or automated equivalent on each mobile facility to record significant historical data; however, in cases where a facility is comprised of more than one van, an AFTO Form 95 or automated equivalent will also be maintained on each van. **(T-3)**

16.3.15.2. Maintain an AFTO Form 95 or automated equivalent on each end item of equipment not permanently assigned to a van or facility. **(T-3) Note:** These items have their own SRD and are listed with a WUC under the van or facility WUC.

16.3.15.2.1. Ensure all entries are transcribed to the AFTO Form 95 for the assigned van or facility, if a non-permanent item is permanently transferred to a van or facility. **(T-3)**

16.3.15.2.2. Initiate a new document if a permanent item removed from a van or facility becomes its own end item. **(T-3)** Document transfer of pertinent information to the new record and annotate in the original record the removal reason and date. **(T-3)**

16.3.15.2.3. A duplicate copy of historical documents may accompany all deployed equipment and appropriate entries will be accomplished on the documents while deployed, if the original historical documents do not accompany the equipment when deployed. **(T-3)** Use of a duplicate record is at the unit commander/flight commander's discretion.

16.3.15.2.3.1. Ensure the original documents will be updated to reflect events from the deployment if duplicate records are used when the equipment is returned to the home station. **(T-3)**

16.3.15.2.3.2. Ensure both files match upon deployment if duplicate records are used. **(T-3)**

16.3.16. Ensure applicable AFTO Form 470-series checklists (if available), automated copies, or master COTS inventories accompany equipment items being turned in to supply, transferred to another agency, or deployed. **(T-1)** Refer to TO 00-35D-2 for additional guidance on use of AFTO Form 470-series.

16.3.17. Units will develop master inventories based on shipping, acceptance, catalog, and other applicable documents for COTS/GOTS equipment. **(T-3)** When establishing the master COTS inventories, include the initial quantity received, date received, and serial number if applicable, part number, kit number/box number, and description IAW DoDI 5000.64_DAFI 23-111, *Accountability and Management of DOD Equipment and other Accountable Property*. **(T-1)**

16.3.18. Ship historical documents with equipment or component to disposal, storage activity, next using activity or depot unless otherwise directed. **(T-1)**

16.3.19. Maintain current drawings. **(T-1)**

16.3.19.1. Each maintenance work center must document and maintain outside plant drawings for its area of responsibility IAW TO 00-33D-3004, *Methods and Procedures - Managing Cable and Antenna with the Cyberspace Infrastructure with the Cyberspace Infrastructure Planning Systems (CIPS) Visualization Component (CVC*. **(T-1)**

16.3.19.2. Ensure all facility drawings are placed into the applicable AIS and verify an updated copy of facility record drawings needed for system troubleshooting is available in the work center or in an easily accessible central location within the complex. **(T-1)**

16.4. Completion of Air Force Technical Order Form 95.

16.4.1. The AFTO Form 95 is a permanent document of significant actions and provides the maintenance organization with a life profile of the item. This information portrays conditions that could have a bearing on future maintenance of the equipment.

16.4.2. At a minimum, installation/removal dates, component accumulated hours, reason for removal, and a brief narrative as to the maintenance performed on the component (e.g., unit overhauled; unit cleaned; inspected and repaired; replaced minor parts; TCTOs completed; and scheduled maintenance complied with) will be annotated. **(T-1)**

16.4.2.1. Block 1, Mission Design Series (MDS) or type designator of the weapon system or equipment. Enter the part number assigned to the item.

16.4.2.2. Block 2, “Manufacturer.” Enter the name of the manufacturer.

16.4.2.3. Block 3, “Serial Number.” When assigned, enter the serial number of the item identified in block 1. Example: 85-1428, 64-14828. **Note:** For systems that have multiple pieces/boxes and no data plate identifying the serial number, prior to establishing the equipment record and associated historical, verify how to identify the item in IMDS with the Item Manager or Lead Command.

16.4.2.4. Block 4, “Acceptance Date.” Enter the date the equipment was accepted by the Air Force. If unknown, enter “unknown.” Generally, this is the date the first organization to get the equipment accepts it.

16.4.2.5. Column A, “Date.” Enter the date the significant event such as maintenance action or inspection occurred.

16.4.2.6. Column B, “Remarks”. Enter the applicable information, using as many lines as necessary, to document significant data.

16.5. Historical Records. At a minimum, historical records will contain the following:

16.5.1. Applicable AFTO 470 or equivalent.

16.5.2. TCTO Compliance, if not recorded in IMDS. **(T-3)** Document a TCTO noncompliance due to modified or removed systems in which an AF Form 1067 was approved by MAJCOM, FOA, or DRU. All AF Forms 1067 must be maintained in the historical files. **(T-3)** Annotate an entry stating a TCTO was received and whether or not it is applicable. **(T-3)** If the TCTO is deemed applicable, annotate compliance and when the kits were ordered, if necessary. **(T-3)**

16.5.3. TCIs when not recorded in IMDS. **(T-3)**

16.5.4. Removal and replacement of critical subsystems or items or WUC items to include the reason for removal and a brief narrative as to the maintenance performed on the component (e.g., unit overhauled, unit cleaned, inspected, and repaired, corrosion, replaced minor parts, TCTOs completed, DIFM, exchange of end item (controlled substitution), scheduled maintenance complied with). **(T-3)**

16.5.5. Remarks concerning special service test equipment installed or removed. **(T-3)**

16.5.6. Information regarding corrosion: location, extent, and treatment accomplished or required. **(T-3)**

16.5.7. Circumstances regarding mishaps: extent of damage, repair authority, repairing activity, date of repair, and repairs accomplished. **(T-3)**

16.5.8. Weather damage to equipment. **(T-3)**

16.5.9. Data on chemical, biological or radiological contamination: contamination date, type of contaminant, decontamination date, type of decontaminants, and decontamination procedures used. **(T-3)** Records will be maintained for the lifecycle of the equipment (including removed/installed parts). **(T-3)**

16.5.10. Any variance records (e.g., AF Form 1067), approved and not approved, that change the standard configuration IAW TM/commercial manual or original installation paperwork. **(T-3)**

16.5.11. If the facility or equipment requires a flight check before commissioning, enter the initial flight check data, together with any significant maintenance actions that were required to pass initial flight check. **(T-3)**

16.5.12. The removal or decommissioning of end items of equipment and the date the equipment was packed for shipment or the date the equipment was placed in storage as applicable. **(T-3)**

16.5.13. The removal and replacement of items resulting from excessive contaminants discovered through the Spectrometric Oil Analysis Program. **(T-3)**

16.5.14. Remarks concerning special service tests and special test equipment installation and removal are required. **(T-3)**

16.5.15. All circumstances regarding accidents or incidents. **(T-3)** The extent of damage and repairs accomplished. **(T-3)**

16.5.16. Significant maintenance action and circumstances involving emergency maintenance accomplished by depot, engineering installation squadrons, special communications teams, or contractor maintenance personnel. **(T-3)**

16.5.17. TCTO actions, when not under the mechanized system (TO 00-5-15, Section II). **(T-3)**

16.5.18. Document chronic problems and any condition or maintenance action that could affect future maintenance of the equipment. **(T-3)**

16.5.19. Copies of approved system and site-specific waivers and deviations. **(T-3)**

Chapter 17

CONTRACT MAINTENANCE

17.1. Introduction. This section identifies the basic responsibilities for managing Most Efficient Organization or contract maintenance.

17.2. Compliance. When the government solicits services via contract, some requirements may be excluded from the PWS or SOW due to cost. Requirements excluded from the PWS or SOW will be performed by the government. MFMs will determine which functions that are not included in the PWS or SOW will be waived or completed by other means.

17.3. Contract Maintenance Management Responsibilities. When maintenance management responsibilities are required of a contractor, they must be specifically identified in the PWS. Managers will base PWS requirements on existing maintenance policy. The intent and philosophy of organic maintenance processes must be carefully considered and included when appropriate. Contract maintenance personnel are required to document maintenance actions and order parts, the preferred method is through the Air Force-approved AIS, to include IMDS and Reliability and Maintainability Information System (REMIS). **(T-2)** A contractor may generate their own database to track these actions. As a minimum, PWSs will have:

17.3.1. Contractor Maintenance Data Collection. **(T-2)** Enter systems and component failure IAW TO 00-20-2; material consumption IAW TO 00-20-3, and TCTO reporting requirements IAW TO 00-5-15. Cite appropriate data items and include collecting TCTO and reparable processing data in contracts. **(T-3)** Contract instructions call out the time and place to turn in data. **(T-3)** Specify if the contractors provide complete source documents and forms or automated products. **(T-3)**

17.3.2. System restoral priorities. **(T-3)**

17.3.3. Procedures to maintain configuration control. **(T-3)**

17.3.4. Procedures to document historical records, to include procedures if automated documentation method is unavailable. **(T-3)**

17.4. Contract Surveillance Programs/Contracting Officer Representatives. Contract Surveillance Programs/Contracting Officer Representatives will accomplish contract maintenance surveillance program duties IAW procurement guidelines and command directives. When requested by the procurement office, the program executive officer/functional service manager provides a qualified Contracting Officer Representative for surveillance purposes. **(T-3)** Surveillance programs may vary depending on the scope of the contract and directions of the procurement office. It is vital military personnel do not change or task contractors, thus changing the contract.

17.5. Contracting Officers. Only contracting officers will enter into or change a contract, PWS or SOW. **(T-0)** Only contracting officers or Contracting Officer Representatives will provide direction to contractors. **(T-0)** Direct problems with contract performance, contract changes or interpretation to the responsible contracting officer, administrative contracting officer or Contracting Officer Representative for resolution. **(T-0)** Contractual assistance may be used to satisfy a wide variety of requirements ranging from minor one-time repairs to operation and maintenance of complete systems. For more information see DAFI 63-138, *Acquisition of Services,* and AFPD 64-1, *The Contracting System.*

17.6. Considerations. Consider contract maintenance on a planned and selective basis; however, wartime capability will not be compromised by excessive use of this resource. **(T-3)** Check with appropriate MAJCOM, FOA, or DRU managers to ensure local contract efforts do not erode command wartime capabilities.

ADRIAN L. SPAIN, Lt Gen, USAF
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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

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Prescribed Forms

None

Adopted Forms

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AFTO Form 471, *Electronic Set Inventory Checklist Configuration Data*

AFTO Form 472, *Electronic Set Inventory Checklist Completion Data*

AFTO Form 747, *Cyberspace Infrastructure System Acceptance*

Abbreviations and Acronyms

ACC—Air Combat Command

ADX—Aeronautical Data Exchange

AETC—Air Education and Training Command

AFCSM—Air Force Computer Systems Manual

AFDW—Air Force District of Washington

AFETS—Air Force Engineering and Technical Services

AFFSA—Air Force Flight Standards Agency

AFH—Air Force Handbook

AFI—Air Force Instruction

AFJQS—Air Force Job Qualification Standard

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMD—Air Force Mission Directive

AFMCI—Air Force Materiel Command Instruction

AFMQCC—Air Force Maintenance Quality Control Checklist

AFMSI—Air Force Maintenance Special Instruction

AFPD—Air Force Policy Directive

AFQTP—Air Force Qualification Training Package

AFR—Air Force Reserve

AFREP—Air Force representative

AFRIMS—Air Force Records Information Management System

AFSC—Air Force Specialty Code

AFTO—Air Force Technical Order

AFTTP—Air Force Tactics, Techniques, and Procedures

AHE—Automated History Entry

AI—Acceptance Inspection

AIS—Automated Information System

ALC—Air Logistics Center

AM—Airfield Management

ANG—Air National Guard

AO—Airfield Operations

AOF—Airfield Operations Flight

AOR—Area of Responsibility

ASTM—American Society for Testing and Materials

ATC—Air Traffic Control

ATCALS—Air Traffic Control and Landing Systems

AU—Air University

AWP—Awaiting Parts

BAS—Basic Allowance for Subsistence

BCE—Base Civil Engineering

C-Complies—CDC-Career Development Course

CDE—Corrected During Evaluation

CD-ROM—Compact Disk-Read Only Memory

C-E—Communications Electronics

CFETP—Career Field Education and Training Plan

CFM—Career Field Manager

CIPS—Cyberspace Infrastructure Planning System

CIR—Custodian Inventory Report

CoM—Chief of Maintenance

CONUS—Continental United States

COR—Critical Outage Report

COTS—Commercial Off-The-Shelf

CPCP—Corrosion Prevention and Control Program

CS—Communication Squadron

CWC—Complies With Comments

DAF—Department of the Air Force

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

DASR—Digital Airport Surveillance Radar

DATCALS—Deployable Air Traffic Control and Landing Systems

DIFM—Due-In-From Maintenance

DLR—Depot Level Reparable

DoD—Department of Defense

DOM—Documented Maintenance Inquiry

DPAS—Defense Property Accountability System

DPEM—Depot Purchased Equipment Maintenance

DRU—Direct Reporting Unit

DVD-ROM—Digital Versatile Disc-Read Only Memory

E&I—Engineering and Installation

EAO—Equipment Accountability Officer

ECO—Equipment Control Officer

EDT—Enlisted Development Team

EE—Equipment Evaluations

EMWG—Encroachment Management Working Group

ESD—Electrostatic Discharge

ESR—Equipment Status Reporting

ETIMS—Enhanced Technical Information Management System

E-Tool—Electronic Tool

ETRO—Estimated Time of Return to Operation

ETVS—Enhanced Terminal Voice Switch

FAA—Federal Aviation Administration

FAM—Functional Area Manager

FEDLOG—Federal Logistics

FOA—Field Operating Agency

GOTS—Government Off-The-Shelf

GSA—General Services Administration

HAF—Headquarters Air Force

HAZCOM—Hazardous Communication

HVAC—Heating, Ventilation, Air Conditioning

IAT—Information Assurance Technician

IAW—In Accordance With

ID—Identification

IG—Inspector General

ILS—Instrument Landing System

ILS-S—Integrated Logistics Supply System

IMDS—Integrated Maintenance Data System

IPE—Individual Personnel Evaluation

IT—Information Technology

ITP—Individual Training Plan

JCN—Job Control Number

JDD—Job Data Documentation

JHA—Job Hazard Analysis

JO—Joint Order

JSTO—Job Safety Training Outline

LCMP—Life Cycle Management Plan

LDL—Low Density Level

LMQCC—Local Maintenance Quality Control Checklist

LOGDET—Logistics Detail

LOTO—Lockout/Tag Out

LRS—Logistics Readiness Squadron

LRU—Line Replaceable Unit

LWC—Local Work Card

MAJCOM—Major Command

MAR—Maintenance Action Review

MDC—Maintenance Data Collection

MDM—Mobile Depot Maintenance

MDS—Mission Design Series

MFM—MAJCOM Functional Manager

MFR—Memorandum for Record

MICAP—Mission Capable

MICT—Management Internal Control Toolset

MISCAP—Mission Capability

MOA—Memorandum of Agreement

MOC—Maintenance Operations Center

MOU—Memorandum of Understanding

MRT—Mitigation Response Team

MTP—Master Training Plan

NAS—National Airspace

NAVAID—Navigational Aid

NCOIC—Non-Commissioned Officer In Charge

NDS—National Defense Strategy

NEXRAD—Next Generation Radar

NFPA—National Fire Protection Association

NIC—Not in Compliance

NMC—Not Mission Capable

NOTAM—Notice to Airmen

NRTS—Not Repairable This Station

OCCR—Organizational Cost Center Record

OCR—Office of Coordinating Responsibility

OE/AAA—Obstruction Evaluation/Airport Airspace Analysis

OIL—Open Incident Listing

OI—Operating Instruction

OJT—On-the-Job Training

OPLAN—Operation Plan

OPR—Office of Primary Responsibility

OSS&E—Operational Safety, Suitability, and Effectiveness

OSS—Operations Support Squadron

PAD—Program Action Directive

PCW—Previously Complied With

PCA—Permanent Change of Assignment

PCS—Permanent Change of Station

PEC—Program Element Code

PE—Personnel Evaluation

PFMR—Project Fund Management Record

PMC—Partially Mission Capable

PMEL—Precision Measurement Equipment Laboratory

PMI—Preventive Maintenance Inspection

PMO—Program Management Office

PM—Program Manager

POC—Point of Contact

PPE—Personal Protective Equipment

PPLAN—Programming Plan

PWS—Performance Work Statement

PQDR—Product Quality Deficiency Report

QA—Quality Assurance

QAR—Quality Assurance Representative

RAWS—Radar, Airfield and Weather Systems

RDS—Records Disposition Schedule

RegAF—Regular Air Force

REMIS—Reliability and Maintainability Information System

RMC—Regional Maintenance Center

ROC—Radar Operations Center

RSP—Readiness Spares Package

SAA—Senior Airfield Authority

SAC—Self-Assessment Communicator

SDR—System Documentation Release

SEI—Special Experience Identifier

SEL—Senior Enlisted Leader

SII—Special Interest Item

SME—Subject Matter Expert

SOP—Standard Operating Procedure

SOW—Statement of Work

SPE—Special Personnel Evaluation

SRD—Standard Reporting Designator

SSM—System Support Modification

STARS—Standard Terminal Automation Replacement System

TACAN—Tactical Air Navigation System

TCI—Time Change Item

TCNO—Time Compliance Network Order

TCTO—Time Compliance Technical Order

TDY—Temporary Duty

TI—Technical Instruction

TMDE—Test, Measurement and Diagnostic Equipment

TM—Technical Manual

TODA—Technical Order Distribution Account

TODO—Technical Order Distribution Office

TO—Technical Order

TRB—Training Review Board

TRN—Turn-Around

UGT—Upgrade Training

UND—Urgency of Need Designator

USAF—United States Air Force

USSF—United States Space Force

UTC—Unit Type Code

UTM—Unit Training Manager

WEBFLIS—Web Federal Logistics Information System

WUC—Work Unit Code

Office Symbols

AF/DA3O—Deputy Director, Air Force Current Operations

AFFSA/XA—Air Force Flight Standards Agency, Airfield Operations Division

AFFSA/XAR—Air Force Flight Standards Agency, RAWS Operations, Procedures, and Training

AFFSA/XLL—Air Force Flight Standards Agency, Logistics Management

AFFSA/XLM—Air Force Flight Standards Agency, System Managers

AFFSA/XM—Air Force Flight Standards Agency, ATCALS Maintenance

HAF/A3W—Headquarters Air Force, Weather Operations

SSC/SZGG—Space System Command, Space Domain Awareness Radars

Terms

Aerodrome—A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and movement of aircraft.

Air Traffic Control and Landing Systems—DoD facilities, personnel, and equipment (fixed, mobile, and seaborne) with associated avionics to provide safe, orderly, and expeditious aerospace vehicle movements worldwide.

Career Field Education and Training Plan—The CFETP is a comprehensive core-training document that identifies life-cycle education and training requirements; training support resources; and minimum core task requirements for a specialty. The CFETP aims to give personnel a clear

path and instill a sense of industry in career field training. It is the formal training contract between the Air Force Career Field Manager and AETC for formal accession and life- cycle skills training.

Equipment Status Report—The term "ESR" refers to a report about systems/equipment mission capable status. The report is forwarded to managers at various levels who extract data on in-use AF equipment/systems to help identify trends, clear up problems, develop replacement systems, spare parts, and equipment modifications, and ensure managers know the status on critical CCITS. See DAFI 21-103, Chapter 6 for additional information.

Flight line—Any area or facility including apron, hardstand, and ramps on or in which aircraft may be parked, stored, serviced, or maintained.

Installation Commander—The individual responsible for all operations performed by an installation.

Major Command (MAJCOM)—For the purpose of this manual, includes all Air Force Major Commands plus the Air National Guard Readiness Center, Air Force Reserve Command, Direct Reporting Units, and Field Operating Agencies.

Master Training Plan—Employs a strategy for ensuring the completion of all work center job requirements by using a Master Task Listing and provides milestones for task, Career Development Course (CDC) completion, and prioritizes deployment/UTC, home station training tasks, upgrade, and qualification tasks.

Mishap—A mishap is an unplanned occurrence, or series of occurrences, that results in damage or injury and meets Class A, B, C, D and Class E event reporting criteria IAW DAFI 91-204, *Safety Investigations and Reports*, paragraph 1.10. Damage or injury includes: damage to DoD property (excluding normal wear and tear or aging); occupational illness to DoD military or civilian personnel; injury to DoD military personnel on- or off-duty; injury to on-duty DoD civilian personnel; damage to public or private property, or injury or illness to non-DoD personnel caused by Air Force operations.

Readiness Spares Package—Items other than aircraft, such as C-E, vehicles, and bare base systems, that are a transportable set of spares and repair parts required to support planned wartime or contingency operations for a specified period of time pending resupply.

Objective—A statement that specifies what behavior is to be exhibited, the conditions under which behavior will be accomplished and the minimum standard of performance. Objectives describe only the behaviors that directly lead to or specifically satisfy a job performance requirement. An objective is a statement of instructional intent.

On—the-Job Training—Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade and job qualification training.

Qualified Personnel—Refers to those individuals with the technical skills required to perform various functions relating to RAWS equipment/system corrective, inspection, maintenance, and preventive maintenance activities. An individual is considered "qualified" if that individual has been trained to the level necessary to perform specific activities or functions under this manual. Technical qualifications will vary by function being performed and technical competency required. For example, an individual qualified to troubleshoot a system will require more specialty/technical training than an individual qualified to remove and install a part. An individual qualified to remove

and install a part will require more specialty/technical training than a custodian who conducts operational inspections and assessments.

Qualification Training Package—An instructional package designed for use at the unit to qualify, or aid qualification, in a duty position or program, or a piece of equipment. It may be printed, computer-based, or in other audiovisual media. AFQTPs do not require third-party.

Skill Level—The level of qualification within an awarded Air Force specialty, shown by the fourth digit of the AFSC.

Specialty Training Standard—An Air Force publication that describes an Air Force specialty in terms of tasks and knowledge which an airman in that specialty may be expected to perform and identifies the training provided to achieve a 3-, 5-, or 7-skill level within an enlisted Air Force. It further serves as a contract between AETC and the functional user to show the overall training requirements for an AFSC that are taught in formal schools and correspondence schools.

Supplemental Training—Training for a portion of an Air Force Specialty without a change in AFSC. Formal training on new equipment, methods and technology that is not suited for on-the-job training.

Task—A unit of work activity or operation that forms a significant part of a duty. A task usually has clear beginning and ending points and directly observable or otherwise measurable processes, frequently but not always resulting in a product that can be evaluated for quantity, quality, or fitness in the work environment. A task is performed for its own sake; that is, it is not dependent upon other tasks, although it may fall in a sequence with other tasks in a duty or job array.

Attachment 2

CONDUCTING PERSONNEL EVALUATIONS

A2.1. Conducting Evaluations.

A2.1.1. Evaluators will meet eligibility requirements of **paragraph 2.9.2** and not have trained the individual on tasks being evaluated. Evaluators must make careful observations of actions taken to accomplish the task under evaluation. Each evaluator shares the duty for safe mission conduct with the individual being evaluated. Whenever an evaluator observes a breach of security, safety, discipline, or procedure during the evaluation, the evaluator will take immediate corrective action. Evaluators serving as safety observers will meet all safety requirements IAW DAFMAN 91-203. **(T-3)**

A2.1.2. Before the evaluation, evaluators must analyze and select tasks to be evaluated based on the type of evaluation, mission requirement, trend analysis indicators, training management reports, system performance data, previous evaluations done in the work center, and other management indicators requiring special emphasis. Evaluators then select tasks not previously evaluated in the work center of which at least two-thirds are performance-based and the remaining third are common knowledge core tasks as identified in the ITP for the individual receiving the evaluation.

A2.1.2.1. Consider all equipment when selecting tasks for PE to adequately assess the work center training program effectiveness.

A2.1.2.2. Select alternate tasks to avoid the need to reschedule an evaluation when operational requirements do not permit completion of planned evaluations.

A2.1.2.3. Evaluators will brief the technician on the tasks to be evaluated, the rating/grading criteria, and the performance standards prior to beginning the evaluation. Emphasize that the goal of evaluations is to determine the effectiveness of the work center's training program. The evaluator must advise the technician of the following:

A2.1.2.3.1. The evaluation starts when the technician begins to prepare for the task, or portion of the task to be evaluated, and is completed when the entire task or previously determined portion of the task is finished.

A2.1.2.3.2. All maintenance actions performed are subject to evaluation.

A2.1.2.3.3. Safety, security, or system/equipment integrity will not be compromised for any reason.

A2.1.2.3.4. All detected errors during the task evaluation will be used to calculate an overall award of C, Complies with Comments (CWC) or NIC.

A2.1.2.3.5. The technician must notify the evaluator of applicable information that could affect the task evaluation. This includes any Previously Complied With (PCW) task(s)/step(s) (e.g., a setup task for tactical equipment requires driving a ground rod, however the evaluation is conducted in a maintenance bay, so the technician hooks to a facility ground instead). If the technician fails to do this, he or she may be charged with an error for requirements that were omitted during the task performance that were not identified as PCW prior to the evaluation critique.

A2.1.2.4. Prior to initiating performance of the first task, the technician under evaluation will:

A2.1.2.4.1. Open a special inspection in IMDS or other approved AIS for each equipment item he/she is to be evaluated on.

A2.1.2.4.2. Gather tools, TMDE, technical data, safety gear, additional personnel (if required), and any other necessary requirements to perform tasks to be evaluated.

A2.1.2.4.3. Provide a safety and security brief for all personnel involved in the PE per Air Force instructions, technical orders, equipment/system manuals, and any local requirements.

A2.1.3. During the evaluation evaluators will evaluate the process from beginning to end, to include any preparation, task performance, and post-completion procedures. Technicians are to accomplish all tasks independently and without outside assistance unless a task requires additional personnel as directed by official guidance (i.e., technical orders, security instructions, and safety compliance requirements).

A2.1.3.1. Evaluators will stop the evaluation if technicians use methods or procedures that could jeopardize safety, violate security, or cause system/equipment damage. Task evaluations may be continued (at the evaluator's discretion) after the hazard is corrected.

A2.1.3.2. The evaluator may ask questions or inject a task to determine technician knowledge of the task under evaluation. The technician may use technical references to answer any questions.

A2.1.3.3. Evaluators will assess a technician's task performance, ensuring technicians accomplish the task independently and without outside assistance unless the task requires multiple personnel as directed by guidance.

A2.1.3.4. The evaluator may terminate the remaining portion of a single task if the technician has demonstrated technical competency. The evaluator will not terminate all remaining tasks for the evaluation.

A2.1.3.5. Evaluators will capture specific examples of how the individual performed various tasks for the report.

A2.1.4. At the conclusion of the personnel evaluation, evaluators will provide an out-brief to the work center supervisor and the technician. The out-brief will highlight the technician's performance and notable shortfalls but will not include the overall results. Evaluators will complete a written report utilizing criteria described in **paragraph A2.1.4.1**, coordinate formal closure of the report based upon the overall result, and submit the finalized report IAW **paragraph A2.1.5**.

A2.1.4.1. Personnel Evaluation Report Writing and Submission.

A2.1.4.1.1. Capture all validated deficiencies, improvement areas, compliance examples, and Corrected During Evaluation (CDE) deficiencies on an AFMQCC 100-1, or an automated substitute. The decision to document a deficiency must be based upon published standard practices and procedures, technical data, or other policy guidance.

A2.1.4.1.2. Validated deficiencies must include a deficiency code and a category rating of Cat I, Cat II, or Cat III. **Table A2.1** lists these deficiency codes. All deficiencies will be tracked for trend analysis using these standardized codes.

A2.1.4.1.2.1. Cat I/Critical Deficiencies will result in an unsatisfactory evaluation and will require the evaluator to stop the evaluation and apply immediate corrective measures. The following are example causes for a Cat I deficiency:

A2.1.4.1.2.1.1. Strong potential/actual loss of life, limb, or litigation is required.

A2.1.4.1.2.1.2. Change mission to NMC status.

A2.1.4.1.2.1.3. Actual equipment degradation or lifespan; to include end items, ancillary, support or test equipment.

A2.1.4.1.2.1.4. Security incidents or violations that require further investigation or reporting; failure to meet instructions.

A2.1.4.1.2.2. Cat II/Major Deficiencies can result in an unsatisfactory evaluation. The following are example causes for a cat II deficiency:

A2.1.4.1.2.2.1. Slight risk/probability to cause minor bodily harm (e.g., faulty gloves, scratched goggles, dim flashlight, etc.).

A2.1.4.1.2.2.2. Change equipment operation to Partially Mission Capable (PMC) status.

A2.1.4.1.2.2.3. Possible equipment degradation or lifespan; to include end items, ancillary, support or test equipment.

A2.1.4.1.2.2.4. Possible minor security issue that does not require further investigation or reporting.

A2.1.4.1.2.3. Cat III/Minor Deficiencies can result in an unsatisfactory evaluation if they detract from the overall job or equipment/system performance.

A2.1.4.1.2.4. Evaluators will rate each task included in the overall evaluation. All deficiencies are then totaled and assigned an overall task result IAW **Table A2.2**., Personnel Evaluation Task Result Matrix. Results are based on the following three-grade system: C, CWC, or NIC per **Table A2.2**. Technicians will be decertified on task(s) rated NIC.

A2.1.4.1.2.5. CDE is used on a report to show that the deficiency was corrected during the evaluation or on-the-spot. These deficiencies could still indicate a systemic issue and are factored in for trend and analysis.

A2.1.4.1.2.6. **Table A2.1. s** hould be utilized to determine which deficiency code may apply to a certain situation. **Note:** This table provides an objective method to evaluate errors. Nevertheless, the evaluator’s experience and subjective judgment plays a vital role in the assessment.

A2.1.4.1.2.7. **Table A2.2.** illustrates how to determine the results based on the deficiency code results for each task evaluated.

A2.1.4.1.2.8. PEs that do not contain any NIC tasks are rated as "Satisfactory." Evaluations that contain one or more NIC tasks are rated as "Unsatisfactory."

A2.1.4.1.2.9. Brief the technician and the work center supervisor upon determining the evaluation resulted in one or more NIC task ratings. **Note:** An evaluation that resulted in one or more NIC-rated tasks requires an investigation to determine the root cause of the identified deficiencies for each NIC task, and initiation of the decertification process on those respective tasks. See DAFMAN 36-2689, for more details.

A2.1.4.1.2.10. Develop an executive summary that contains a summary of what was evaluated, the overall result (satisfactory or unsatisfactory), a comment about the technician's performance, strengths and weaknesses, and a deficiency trend analysis to include root causes and recommended management actions to prevent reoccurrence.

Table A2.1. Personnel Evaluation Task Deficiency Code.

CODE NUMBER	DESCRIPTION	CATEGORY ASSIGNMENT
P001	Tools or support equipment overdue inspection or calibration and utilized and/or tools or support equipment missing needed parts but used.	I or II
P002	Tools or support equipment damaged by improper use or handling.	I or II
P003	Applicable technical data not on hand, incorrect, out of date or not used.	I or II
P004	Technician not able to perform emergency procedures and/or did not comply with warnings, cautions, and notes.	I or II
P005	Technician lacked sufficient knowledge of the task and/or technician lacked sufficient knowledge of the operation of required support equipment.	I or II
P006	Controlling agencies not advised of changes in mission/equipment status when status changes due to task performance.	I or II
P007	Required steps of a task were skipped or performed in the incorrect sequence.	I or II
P008	An out-of-tolerance condition or an error in measurement was not recognized and resulted in the equipment not meeting technical data specifications.	I or II
P009	Inability/weakness in explaining weapon safety standards or nuclear related two-person concept requirements.	I or II
P010	Assets/equipment or materials not properly identified for turn in or disposal (this statement includes improper disposal of materials), and/or parts required to fix/clear equipment deficiencies not identified or ordered.	I, II, or III
P011	Not Otherwise Coded Deficiency.	I, II, or III
P012	Tools or support equipment improperly used or handled and/or repairable assets not properly identified for turn-in or repair.	II or III
P013	MOC not notified of changes in equipment status as a result of task performance and/or maintenance documentation not properly completed.	II or III
P014	Lack of coordination with required agencies to ensure a safe, timely, and effective evaluation, and/or work area cleanup actions not accomplished.	II or III
P015	Tools or support equipment overdue inspection or calibration but not used and/or tools or support equipment missing needed parts but not used.	III
P016	Tools or support equipment not obtained before task initiation and/or tools or support equipment not properly stored after task completion.	III
P017	Technician not knowledgeable with emergency procedures and/or safety briefing not conducted when required and/or technician lacked sufficient knowledge of the operation of required support equipment documentation (e.g., sign out, sign off).	III
P018	Equipment status not checked to determine the existing condition and/or a JCN was not obtained for required documentation and/or no method available to document deficiencies discovered during the task performance.	III

Table A2.2. Personnel Evaluation Task Result Matrix.

Rule	If the Individual Committed	And	And	The result is
1	No Category I Deficiency	No Category II deficiency	No Category III deficiency.	C
2	No Category I Deficiency	Two or less Category II deficiencies	The accumulation of Cat III deficiencies did not detract from overall satisfactory job performance.	CWC
3	No Category I Deficiency	Two or less Category II deficiencies	The accumulation of Cat III deficiencies caused unsatisfactory job performance.	NIC
4	No Category I Deficiency	Three or more Category II deficiencies	N/A	NIC
5	One or more CategoryI deficiencies	N/A	N/A	NIC

A2.1.4.2. Personnel Evaluation Report Submission.

A2.1.4.2.1. Evaluators will document PEs on AFMQCC 100-1. Comments and recommendations are made on the evaluation report to eliminate the need for separate correspondence. The report(s) also provides a source for analyzing the effectiveness of the overall training program.

A2.1.4.2.2. Identify task deficiency codes and results, provide additional comments and references to each deficiency code, provide recommendations, and explain rescheduling actions, if required. Explain management, system, or equipment deficiencies not directly reflecting personnel performance in a separate special equipment report.

A2.1.4.2.3. The unit commander must review all evaluation reports with an overall result of unsatisfactory. All other reports are reviewed at commander's discretion.

A2.1.4.2.4. PE reports will be routed only once through the routing chain. At a minimum, include the evaluated individual, individual's supervisor, work center supervisor, and Unit Training Manager (UTM). For reports with an overall result of unsatisfactory, also include flight commander and unit commander. Reports will be closed within 30 calendar days from the date of evaluation as indicated on the AFMQCC 100-1. The closing authority for "Satisfactory" evaluations is the flight commander. Closing authority for "Unsatisfactory" evaluations is the unit commander but may be delegated no lower than the unit Director of Operations.

A2.1.4.2.5. Evaluators will submit PE results by inputting required data into the PE Submissions tab of the RAWS Management Microsoft Teams® site (Inspections and Evaluations channel). The RAWS Management Microsoft Teams® site is accessible by utilizing the Team Code: qv6t9ij.

A2.1.4.2.6. Supervisors will annotate PE date completion as a journal entry in an approved AIS for training.

Attachment 3

CONDUCTING EQUIPMENT EVALUATIONS

A3.1. Conducting Evaluations.

A3.1.1. Evaluators will meet eligibility requirements of **paragraph 2.9.2**. Evaluators will ensure EEs are performed on a sample of all equipment on a 12-month basis (24 months for ANG). This is the minimum required and units may increase the frequency or sample size depending on deficiencies noted.

A3.1.2. Before the evaluation, evaluators must analyze and select equipment items to be evaluated utilizing sampling plan guidance in **paragraph A3.1.2.2**. Effort should be made to select equipment not previously evaluated during previous sampling periods to ensure a broad sampling over time.

A3.1.2.1. Schedule EE completion, to the greatest extent possible, during organizational training exercises, pre-deployment inspections, recurring PMIs and maintenance actions, or other inspection actions to minimize operational mission disruption. Do not disassemble equipment solely for evaluation purposes.

A3.1.2.2. Unit commanders may direct a special EE at any time. An example of a special EE would be when a piece of equipment is overhauled. Do not document special equipment evaluations that reveal no discrepancies if an acceptance or commissioning document, such as an AFTO Form 217, *Certificate of Maintenance Accomplished* or AFTO Form 747, *Cyberspace Infrastructure System Acceptance* is signed.

A3.1.2.3. Review and analyze system records for performance data, applicable Standard Operating Procedures (SOPs), and other documentation such as previous AFMQCCs/LMQCCs, AF Form 1067, AFTO Form 227, TCIs, TCTOs, AFTO Form 47X-Series inventories, and maintenance data documentation.

A3.1.2.4. Using a Sampling Plan for Equipment Evaluations.

A3.1.2.4.1. Common Terms.

A3.1.2.4.1.1. Population. The number of like items assigned to a work center will be used as the population for EEs.

A3.1.2.4.1.2. Like Items. Like items perform the same basic function; are of the same basic design; and are maintained using the same basic tests and alignments.

A3.1.2.4.1.3. Sample Size. Sample size is the number of items that need to be sampled.

Table A3.1. Sample Sizes.

Population Size	Sample Size
1	**1**
2 through 5	**2**
6 through 10	**3**
11 through 15	**4**
16 through 25	**6**
26 through 50	**13**
51 through 75	**19**
76 through 100	**20**
101 through 150	**30**
151 through 200	**40**
201 through 250	**50**
251 through 300	**60**
301 through 350	**70**
351 through 500	**100**
501 through 1000	**200**
1001-plus	**25 percent of total**

A3.1.2.4.2. Count the number of like items and find the corresponding block under the column titled population size in **Table A3.1**.

A3.1.2.4.2.1. The corresponding sample size in the sample size column is the minimum number of like items to be inspected. For example, the unit has 25 A-Widgets and 30 B-Widgets which are considered like equipment end items. The total is 55; therefore, the sample size is 19 items. Nine (9) A-Widgets and ten (10) B-Widgets would be inspected over the 12-month timeframe.

A3.1.2.4.2.2. Random Sampling.

A3.1.2.4.2.3. For other large quantities of materials that need to be sampled, use a sampling size of 25 percent. This sampling rate can be useful to inspect any large population commodity, such as TO files, publication files, bench stock bins, etc. Rather than inspect 100 percent of a file/commodity, evaluation of an appropriate sample size normally provides a reliable indication of the condition of the total file.

A3.1.2.4.3. Use of a Random Number Table.

A3.1.2.4.3.1. To effectively evaluate a random sample of commodity, technicians can use a random number generator to identify which item in the commodity to evaluate.

A3.1.2.4.3.2. To determine the specific items or records to be evaluated, develop a way to randomly identify the items. For example: enter the list of items to be evaluated into an Excel spreadsheet. After determining how many need to be inspected by multiplying the total by 0.25, use a sequence generator to help provide the number of an item to be sampled. If the sample plan determines technicians have 16 items, four items need to be sampled, and the sequence generator responds

with 3, 5, 13, and 15 or technicians pull the corresponding number from a hat. Those items corresponding to those numbers are to be sampled. They were randomly selected to be evaluated. There are random sequence generators available via the Internet.

A3.1.3. During the Evaluation.

A3.1.3.1. During the evaluation, evaluators will:

A3.1.3.1.1. Utilize appropriate AFMQCCs for all EEs. For equipment, including COTS, where AFMQCCs have not yet been published, a LMQCC is required.

A3.1.3.1.2. Evaluate and identify deficiencies, improvement areas, and compliance examples in enough depth to ensure equipment and systems are maintained and managed according to applicable technical data and standards. These standards include technical parameters, grounding, bonding, power, and corrosion prevention.

A3.1.3.1.3. Document findings on applicable AFMQCCs/LMQCCs for use in the final report. All detected errors during the evaluation will be used to calculate an overall award on each AFMQCC line item.

A3.1.4. At the conclusion of the evaluation, evaluators will provide an initial out brief to the work center supervisor. Evaluators will complete a written report utilizing criteria described in **paragraph A3.1.4.1**, coordinate formal closure of the report based upon the overall result, and submit the finalized report IAW **paragraph A3.1.4.2.2**.

A3.1.4.1. Equipment Evaluation Report Writing and Submission.

A3.1.4.1.1. Capture all validated deficiencies, improvement areas, and compliance examples on the applicable equipment AFMQCC. The decision to document a deficiency must be based upon published technical data or other maintenance guidance.

A3.1.4.1.2. Validated deficiencies must include a deficiency code and a category rating of Cat I, Cat II, or Cat III. **Table A3.1 s**hould be utilized to determine which deficiency code may apply to a certain situation. The evaluator's experience and subjective judgment plays a vital role in the assessment.

A3.1.4.1.3. Total all deficiencies and assign an overall rating of each AFMQCC line item according to **Table A3.2**. Results are based on the three-grade system (i.e., "Complies (C)", "Complies With Comments (CWC)", or "Not In Compliance (NIC)").

A3.1.4.1.4. EEs that contain no (zero) NIC tasks are rated as "Satisfactory." Evaluations that contain one or more NIC tasks are rated as "Unsatisfactory."

A3.1.4.1.5. While determining the grade, if any critical deficiency is determined, evaluator will immediately notify the work center supervisor for immediate action. Root cause determination of the identified deficiency should be captured in the final report, if known.

Table A3.2. Equipment Evaluation Task Deficiency Code.

CODE NUMBER	DESCRIPTION	CATEGORY ASSIGNMENT
T001	The item is completely inoperative.	I or II
T002	Item has major corrosion, many scratches, and excessive chipped paint and/or the item is not clean and its condition will affect operation or reliability.	I or II
T003	Item is not grounded properly (e.g., paint not removed from ground connection, etc.) and/or item does not comply with standard installation practices and techniques.	I or II
T004	The item is unsafe or hazardous to use and/or item is over-fused.	I or II
T005	The item has a physical defect that affects operation or reliability.	I or II
T006	The item has a technical data documentation error that affects operation or reliability.	I or II
T007	The software was improperly configured and affects system/network security and/or the hardware was improperly configured and affects system/network security.	I or II
T008	Item received dirty or had physical defects that were not documented.	I or II
T009	Item received without required documentation, technical data, or accessories.	I or II
T010	The item does not meet technical specifications/tolerances for all parameters/specifications.	I or II
T011	Item does not comply with applicable technical order, technical data, and other requirements, including TCTO and Time Compliance Network Order (TCNO).	I, II, or III
T011.5	Item does not comply with required NC3E documentation in IMDS.	I, II, or III
T012	The software was improperly configured and affects system/network reliability.	I, II, or III
T013	The hardware was improperly configured and affects system/network reliability.	I, II, or III
T014	Maintenance schedules or master equipment listings/reports incorrect or not updated.	I, II, or III
T015	Item not properly documented or improperly packaged for shipment.	I, II, or III

T016	Standard out-of-tolerance (normal use would not detect).	I, II, or III
T017	Other items not otherwise coded.	I, II, or III
T018	The item has a function/capability that is inoperative.	I, II, or III
T019	Item has minor corrosion, few scratches, and some chipped paint and/or the item is not clean and its condition could affect operation or reliability.	III
T020	Item historical records are incomplete or inadequate and/or the item has a technical data documentation error that does not affect operation or reliability.	III
T021	Item not properly identified in approved AIS database and/or data field incorrect (incorrect information loaded to approved AIS).	III
T022	Item cabling is not managed properly in accordance with applicable cabling standards.	III
T023	Item cabling is not labeled properly in accordance with applicable cabling Standards.	III
T024	Rack, cabinet, or closet has extraneous material/refuse stored in, on or around equipment.	III

Table A3.3. Equipment Evaluation Task Result Matrix.

Rule	If the Equipment Contained	And	And	The result is
1	No Category I Deficiency	One or less Category II deficiencies	The accumulation of Cat III deficiencies did not detract from overall satisfactory equipment/system performance.	C
2	No Category I Deficiency	Two or less Category II deficiencies	The accumulation of Cat III deficiencies did not detract from overall satisfactory equipment/system performance.	CWC
3	No Category I Deficiency	Two or less Category II deficiencies	The accumulation of Cat III deficiencies detracted from overall satisfactory equipment/system performance.	NIC
4	No Category I Deficiency	Three or more Category II deficiencies	N/A	NIC
5	One or more Category I deficiencies	N/A	N/A	NIC

A3.1.4.2. Equipment Evaluation Report Submission.

A3.1.4.2.1. For reports with an overall result of Satisfactory, the work center supervisor will be the closing authority. The unit commander, or designee (not below the Director of Operations), will be the closing authority for EEs with an overall rating of Unsatisfactory.

A3.1.4.2.2. Evaluators will submit EE results by inputting required data, and applicable AFMQCC form, into the EE Submissions tab of the RAWS Management Microsoft Teams® site (Inspections and Evaluations channel). The RAWS Management Microsoft Teams® site is accessible by utilizing the Team Code: qv6t9ij.

A3.1.4.2.3. The most recent EE report will be maintained in the equipment historical records.

Attachment 4

SYSTEMS OF RECORD PORTFOLIO

A4.1. Current Systems Maintained. Table A4.1 is a list of communication-electronic equipment maintained by RAWS work centers. **Note:** This list is not all inclusive.

Table A4.1. Equipment Listing.

System	AFMQCC for Evaluation	COR Requirement	Lead Command/Agent
Very High Frequency Omnirange (VOR) FRN-44/44A (all versions)	AFMQCC 300-1	NMC, Note 1	AFFSA
Tactical Air Navigation FRN-45/45C	AFMQCC 300-2	NMC, Note 1	AFFSA
Instrument Landing System GRN-29v1 (all subsystems)	AFMQCC 300-3	NMC, Note 1	AFFSA
Wind Measuring Set FMQ-13	AFMQCC 350-1	NMC, Note 2, 4	ACC
Automatic Meteorological Station FMQ-19	AFMQCC 350-2	NMC, Note 2, 4	ACC
Fixed Base Weather System FMQ-22	AFMQCC 350-3	NMC, Note 2, 4	ACC
Fixed Base Weather Observing System FMQ-23	AFMQCC 350-4	NMC, Note 2, 4	ACC
Next Generation Radar WSR-88	AFMQCC 350-5	NMC, Note 4	ACC
Automated Surface Observing System FBLCL000	Note 5	NMC, Note 4	ACC
Solar Observing Optical Network FMQ-7	Note 5	NMC, Note 3	SSC/SZGG (USSF)
Radio Solar Telescope Network FRR-95	Note 5	NMC, Note 3	SSC/SZGG (USSF)
Mark IV-B Meteorological Data Station AN/UMQ-13	Note 5	NMC, Note 3	SSC/SZGG (USSF)
Interrogator Set TPX-42	AFMQCC 400-1	N/A	AFFSA
Flight Data Input Output FA-10095	AFMQCC 400-2	N/A	AFFSA
Standard Terminal Automation Replacement System FSQ-204	AFMQCC 400-3	NMC, Note 1	AFFSA
Digital Airport Surveillance Radar GPN-30	AFMQCC 400-4/5	NMC, Note 1	AFFSA
Aircraft Control and Warning Set TPS-75	AFCQCC 400-9	NMC	ACC
Precision Approach Radar FPN-68A	Note 5	NMC, Note 1	AFFSA
Transmitter, Rivet Switch	AFMQCC 500-1	Facility	AFFSA

GRT-21/22		Outage	
Receiver, Rivet Switch GRR-23/24	AFMQCC 500-2	Facility Outage	AFFSA
Control Monitor Group OK-423	AFMQCC 500-3	N/A	AFFSA
Transceiver, VHF GRC-211	AFMQCC 500-4	Facility Outage	AFFSA
Transceiver, UHF GRC-171	AFMQCC 500-5	Facility Outage	AFFSA
Transmitter CM-300 Tx	AFMQCC 500-6	Facility Outage	AFFSA
Receiver CM-300 Rx	AFMQCC 500-7	Facility Outage	AFFSA
Transceiver CM-350	AFMQCC 500-8	Facility Outage	AFFSA
Enhanced Terminal Voice Switch FSC-127a	AFMQCC 500-9	≥50% failure, Note 1	AFFSA
Digital Audio Legal Recorder GSH-74	AFMQCC 500-10	NMC, Note 1	AFFSA
Mobile Air Control Tower MSN-7	AFMQCC 1500-1	NMC, Note 2	AFFSA
Man-Portable TACAN TRN-41	AFMQCC 1500-2	NMC, Note 2	AFFSA
Deployable TACAN TRN-48	AFMQCC 1500-3	NMC, Note 2	AFFSA
Deployable ILS TRN-50/51/52	AFMQCC 1500-4	NMC, Note 1	AFFSA
Landing Control Center MPN-14K	AFMQCC 1500-5	NMC, Note 1	AFFSA
Tactical Meteorological Observing Sys TMQ-53	Note 5	NMC, Note 4	ACC
Portable Doppler Radar TMS-2	Note 5	NMC, Note 4	ACC
Note 1: POC for COR is AFFSA System Management (HQAFFSA.A4L.Sys.Mgmt@us.af.mil). **Note 2**: POC for COR is ACC (acc.a3ao@us.af.mil; accdow@us.af.mil; and ACC.A5W.AFWeatherWeaponSy.1@us.af.mil) **Note 3**: POC for COR is SSC/SZGG (USSF) **Note 4**: Reference DAFI 21-103, Attachment 15, for NMC requirements. **Note 5:** AFMQCC has not been published.			

A4.2. Quality Control Checklists' Repositories.

A4.2.1. The AFMQCCs can be found at:
https://usaf.dps.mil/sites/affsa/SitePages/XAR.aspx.

A4.2.2. The AFCQCC for the TPS-75 can be found at:
https://usaf.dps.mil/:f:/r/teams/12994/Documents/AFCQCCs?csf=1&web=1&e=oUvttD.

A4.3. Future Equipment. Table A4.1 is subject to change as required equipment and their checklists are added or deleted.

Attachment 5

AIR FORCE MAINTENANCE SPECIAL INSTRUCTIONS

A5.1. AFMSIs Currently Available. The AFMSIs can be found at:
https://usaf.dps.mil/sites/affsa/SitePages/XAR.aspx

Table A5.1. Air Force Maintenance Special Instruction Listing.

Number	Title
AFMSI 300-1	Scheduled Periodic Inspections, ATC Communications Systems
AFMSI 300-6	Scheduled periodic Inspections, FSC-127

A5.2. Future AFMSIS. Table A5.1 is subject to change as AFMSIs are added or deleted.

Attachment 6

NEXT GENERATION RADAR OPERATIONS CENTER SUPPORT

A6.1. NEXRAD Operations. The DoD owns and maintains a total of 25 Weather Surveillance Radar-1988, Doppler (WSR-88D) systems. In accordance with a tri-agency agreement among the DoD, Commerce, and Transportation, the ROC located in Norman, Oklahoma is responsible for operational support to the WSR-88D network and can be contacted at 1-800-643-3363.

A6.2. ROC Support. ROC support to WSR-88D locations include:

A6.2.1. Centralized radar operations support, field assistance, software maintenance, engineering support, and special depot-level support of WSR-88D units.

A6.2.2. Systematic and coordinated analyses of the day-to-day operations and maintenance of WSR-88D units to determine the need for improvements and immediate/long-term life cycle support.

A6.2.3. Analyzing, developing, testing, and evaluating proposed changes to WSR-88D hardware/software configurations, materials, techniques, and procedures.

A6.2.4. Implementation of approved WSR-88D hardware, software, and documentation changes.

A6.2.5. Monitoring the FAA OE/AAA database for proposed and ongoing construction/wind turbine projects in the vicinity of WSR-88D locations.

A6.2.6. Assessments of proposed and ongoing construction/wind turbine projects in the vicinity of WSR-88D locations to determine potential impacts to weather radar operations.

A6.2.7. Notifying the DoD Focal Point when proposed and ongoing construction/wind turbine projects threaten to affect WSR-88D locations and their capability to provide weather support to DoD installations and missions.

A6.2.8. Assisting the Air Staff EMWG, MRT, and affected MAJCOM/FOA/DRU weather functional, with efforts to mitigate potential impacts to WSR-88D operations from proposed and ongoing construction/wind farm projects IAW AFI 90-2001.

Attachment 7

CRITICAL OUTAGE REPORTING

A7.1. Critical Outages. A COR will be used to report systems meeting outage requirements outlined in **Table A4.1**. NMC is defined in DAFI 21-103. **Note:** Specific scenarios deeming weather systems NMC are unique and can be found in DAFI 21-103, Attachment 15.

Figure A7.1. Critical Outage Report Template.

Critical Outage Report
1. UNIT/BASE: Self-explanatory.
2. TYPE REPORT: (Initial, Update, Closing).
- Initial: First report during a NMC (Red) outage
- Update: Report providing significant details regarding change in status
- Closing: Last report indicating outage is closed and system is Fully Mission Capable (FMC) (Green)
3. AFFECTED SYSTEM: Equipment designator and Nomenclature (e.g. AN/GPN-30, DASR).
4. JOB CONTROL NUMBER: JCN assigned and loaded into IMDS.
5. DATE/TIME OUT: Start NMC time (Local).
6. DATE/TIME IN: Start Partially Mission Capable (PMC)/FMC time (Local).
7. ESTIMATED TIME TO REPAIR: Anticipated PMC/FMC time.
8. JOB STATUS: AWP, Mission In Progress (MIP), Weather Delay, Single Shift Delay, etc.
9. NARRATIVE DESCRIBING OUTAGE: Cause, Condition, Symptoms of outage.
10. NARRATIVE DESCRIBING ACTIONS TAKEN: Detailed synopsis of maintenance actions/results.
11. NAME AND STOCK NUMBER OF ITEM / PARTS ORDERED: Self-explanatory.
12. DOCUMENT NUMBER: Info for item(s) listed in Line 11.
13. OFF BASE REQUISITION NUMBER / PRIORITY: Info for item(s) listed in Line 11
(FBXXXXXXXXX).
14. POC/RELEASING OFFICIAL: Name, rank, and telephone number of commander/superintendent or NCOIC responsible for the production work center.
15. MISSION IMPACT: Detailed synopsis of the outage's impact on base flight operations. Include name, rank, office symbol, and telephone number of person providing mission impact.

Attachment 8

SUPPLEMENTAL TRAINING COURSES

A8.1. Supplemental Training Courses Currently Available. Supplemental Training Courses identified below will be utilized to provide advanced skill proficiency development to meet unit mission needs. **(T-2)** These courses are not to be utilized to complete UGT requirements. **(T-2)** **Table A8.1** is subject to course modifications, additions and/or removals; for a complete list of current training courses provided, visit the RAWS Dashboard **https://usaf.dps.mil/teams/aetc-ksl-81trg/334/ULC/RAWS/ULCQ/RAWS_DASHBOARD/default.aspx**. The 334 TRS/RAWS develops and provides supplemental courses as deemed necessary by the needs of work centers, and at the direction of the CFM.

Table A8.1. Supplemental Course List.

Air Force In-Residence Courses		
Course Number	**Course Title**	**Location**
E2ANW3DXXX 00QA/ E2AZR3DXXX 00QA	Cyberspace Support Quality Assurance Procedures Course (Hybrid Course)	Air University (AU) Blackboard/ Keesler
E2ANW3DXXX 00QA/ E2AZT3DXXX 00QA	Cyberspace Support Quality Assurance Procedures Course (Hybrid Course)	AU Blackboard/ Mobile Training Team
E3AZR1C851 03DA	Digital Airport Surveillance Radar (DASR) Maintenance	Keesler AFB
E3AZR1C851 03SA	Standard Terminal Automation Replacement System (STARS) Maintenance	Keesler AFB
E3AZR1C852 0B1A	AN/FRN-45 O/I Maintenance	Keesler AFB
E3AZR1C8XX 00DA	High Reliability Soldering and Connections	Keesler AFB
E6ANW3DXXX 00PB/ E3AZR3DXXX 00PB	Cyberspace Project Management (Hybrid Course)	MyLearning LMS/ Keesler AFB
J7AZR3D157 0C0B	Tower Climbing and Tower Certifier Training Course	Sheppard AFB
J7AST3D157 0C0B	Tower Climbing and Tower Certifier Training	Mobile Training Team
J8AZR3D157 0F5A	Fiber Optic Cable Installation, Splicing and Maintenance	Sheppard AFB
National Weather Service Course		
Course Number	**Course Title**	**Location**
E5AZG1C851 01NA	WSR-88D Weather Radar Maintenance (R-4006)	Kansas City, KS
Federal Aviation Administration Courses		
Course Number	**Course Title**	**Location**
FAA 41916001	ILS Concepts	Oklahoma City, OK
FAA 40066	ETVS	Oklahoma City, OK
FAA 40081001	Charles 360-80 Channel Bank	Oklahoma City, OK
FAA 40391	Airport Surveillance Radar (ASR)-9 SCIP	Oklahoma City, OK
FAA 40408	Air Route Surveillance Radar (ARSR)-4 Hardware	Oklahoma City, OK
FAA 40398	Mode S Sensor Maintenance	Oklahoma City, OK
MAJCOM Unique Requirements		
MAJCOM	**Course Title**	**Location**
Air Force District of Washington (AFDW)	ASOS Maintenance Course Number: S1003	Kansas City, KS
AFFSA	Mark 20A Instrument Landing System	Ramstein AB
ACC	AN/FMQ-7 Maintainer Course	Holloman AFB
ACC	AN/FRR-95 and Solar Radio Spectrograph Maintainer Course	Hamilton, MA

Attachment 9

PROGRAM DUTY STANDARDIZATION

A9.1. Requirements. The information contained within this attachment describes proper communication flow, naming conventions, and program build structure for use in Microsoft Teams®.

A9.2. Work Center Implementation . Each work center will create a private Teams® environment within the Air Force network. Each environment will comply with the following standards:

A9.2.1. Work center level Teams® should contain all members of the work center, (to include civilian/contractor personnel), at minimum. Additional members may also be added when requested (i.e., MFMs/FAMs).

A9.2.2. Each work center must implement the following naming convention to ensure proper standardization/identification between channels: Base-Work Center-Program Duties (i.e., Travis AFB-RAWS-Program Duties).

A9.2.3. Each work center will title/name program folders as identified in **Table A9.1**. Program numbers and names will be listed regardless if the program is being utilized within the work center.

A9.2.3.1. Program Duties listed in bold under **Table A9.1** are the minimum work center requirements IAW this DAFMAN. If a program duty is not maintained by the work center, a signed MFR stating the justification is required. The MFR will be considered an indefinite document until the program duty becomes applicable to the work center.

A9.2.3.2. Program Duty files with the same numbering can be combined based on work center needs, all combined programs will be identified in the file name.

Table A9.1. Standard Naming Conventions for 1C8 Program Duties.

01a – Work Center Safety Program	**05 – Records Management**	**10a – QA Functions**
01b or 02b – Climbing Safety Training	**06a – TMDE Management**	**10b – Technical Orders (TO)**
01c – Hazardous Communications (HAZCOM)	**06b – Tools Management**	**10c – Self-Inspection (MICT)**
01d or 10g – Lock Out Tag Out (LOTO)	07a – Facility Management	**10d – Corrosion Prevention & Control Program (CPCP)**
02a – Training	07b – Resource Protection (Controlled Area)	**10e – Electrostatic Discharge (ESD)**
03 – MDC (IMDS)	07c – Grounding and Lightning	10f – PQDR
04a – CA/CRL	08a – Work Center Supervisor	11 – Information Technology Equipment Custodians (ITEC)
04b – Reusable Container Program	08b – Project Manager	
04c – Bench Stock	09a – Vehicle Control	
04d – Supply Point	09b – Airfield Driving	
04e – Hazardous Materials (HAZMAT)		
04f – DIFM		

A9.2.4. All program duties will be structured in the following format: TAB A – Appointment Letters; TAB B – Guidance, Procedures & Information; TAB C – Inspections, Inventories & Surveys; TAB D – Training (see **Table A9.2**.). **Exception:** If a program has external filing requirements. (e.g., CA/CRL jacket files).

A9.2.4.1. If a program is not used, the MFR is to be placed in the program folder without creating the tabbed folders.

Figure A9.1. Program Duty Outline Requirements Example.

01a – Work Center Safety Program
- TAB A - Appointment Letters
- TAB B - Guidance, Procedures & Information
- TAB C - Inspections, Inventories & Surveys
  - Monthly Safety Inspection
  - Monthly Fire Extinguisher Checks
  - Annual Fire Extinguisher Servicing
- TAB D - Training
  - Annual JSTO Review and JSTO
  - JHAs
  - Training Documentation

A9.2.4.2. Unlimited subfolders can be created within each initial folders as seen fit for the work center (i.e., SOPs, OIs and/or local guidance can go under TAB B – *Guidance, Procedures and Information*).