

**BY ORDER OF THE COMMANDER,
PACIFIC AIR FORCES**



AIR FORCE INSTRUCTION 21-116

PACIFIC AIR FORCES COMMAND

Supplement 1

22 JANUARY 2004

Maintenance

**MAINTENANCE MANAGEMENT OF
COMMUNICATIONS ELECTRONICS**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(CMSgt Jeffrey E. Vanderloo)
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(Lt Col Bradley K. Ashley)
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This publication will apply to the Air National Guard or US Air Force Reserve units and members when activated to support PACAF or PACOM missions in the PACAF area of responsibility (AOR).

SUMMARY OF REVISIONS

This change incorporates interim change (IC) 2004-1 (**Attachment 15 (Added)**). It also re-identifies Attachment 1 as **Attachment 14 (Added)** from previous publishing. This is a major revision and requires complete review. This supplement updates the information and office symbols that were in the former AFI21-116/PACAFSUP 1. A bar (|) indicates revision from the previous edition.

AFI 21-116, 10 December 2000, is supplemented as follows:

1.3.1. The Directorate of Communications and Information (HQ PACAF/SC) is responsible for implementing Air Force policy, establishing policy where necessary, and providing guidance to PACAF activities that maintain C-E equipment. The Resource and Force Management Division (HQ PACAF/SCQ) will act as the primary point of contact for C-E maintenance management policy and guidance.

1.3.1.3.3. HQ PACAF/SCQ is the focal point for maintenance management programs, policy, guidance and assistance. Contact HQ PACAF/SCQ by telephone, DSN (315) 449-4690, fax (315) 449-4629, or e-mail (<mailto:pacaf.scq@hickam.af.mil>).

1.4. The C-E maintenance Functional Area Manager (FAM) will periodically visit PACAF units with C-E maintenance activities to gain a better understanding of missions, manpower requirements, personnel utilization, training needs, and to educate the 2E community on career field issues. Units may request a SAV for maintenance management issues. SAVs will not be conducted within 90 days of an ORI.

2.31. Examples of functionally supported maintenance activities (FSMA) include off-base DII stations, TACAN sites on United States Army airfields, munitions support squadrons (MUNSS) communications

elements, and communications elements and flights at geographically separated units (GSU). The parent or host wing communications squadron provides C-E maintenance management and technical support for these activities and develops written agreements establishing the support relationship between the FSMA and parent or host wing communications squadron. These agreements may be either functional area memorandum of agreement (MOA) or memoranda of understanding (MOU) limited to C-E support provisions only or wing-level MOAs or MOUs in which C-E support provisions are a subsection of a larger, multi-unit, cross-functional document. These agreements should address both managerial and technical assistance, and as a minimum, detail:

2.31.1. (Added) . Delineation of C-E maintenance management responsibilities between the parent or host communications squadron and the FSMA maintenance supervisor. Include all applicable areas of responsibility identified in AFI 21-116, Sections 3A through D.

2.31.2. (Added) . Types of technical support (i.e. cable, antenna, telephone, small computer, land mobile radio, etc.) to be provided.

2.31.3. (Added) . Equipment restoral priorities and response times.

2.31.4. (Added) . The 24-hour points of contact.

2.31.5. (Added) . Site access and controlled area access procedures.

2.31.6. (Added) . Provision of spare parts, test equipment, special purpose tools, and support equipment.

2.31.7. (Added) . Recurring managerial evaluation support to ensure compliance with maintenance standardization and evaluation program (MSEP) requirements.

2.34. (Added) . Maintenance of Auxiliary Power Systems. Manage auxiliary power and uninterruptible power supply systems (UPS) supporting C-E equipment in the same manner as other communications systems. When maintenance requirements are not within the capability of the communications unit or other wing organizations, establish a service contract to ensure both scheduled and unscheduled maintenance requirements are met.

3.2.2.25. (Added) . Establish a lockout and tagout program. Develop procedures to ensure equipment is locked out or tagged out before personnel perform any service or maintenance when the unexpected energizing, startup, or discharge of stored energy could cause injury. Instruct all personnel of the significance of lockout and tagout procedures. Find complete guidance for instituting an effective program in AFOSH STD 91-45, *Hazardous Energy Control and Mishap Prevention Signs and Tags*, Occupational Safety and Health Administration (OSHA) Standard 1910, *Code of Federal Requirements for Labor*; Subpart J, Section 147, *Control of Hazardous Energy (Lockout/Tagout)*.

4.2.1.5. Personnel in short tour locations should remain in work center to ensure continuity.

4.6.5.1. (Added) . Report all Not Mission Capable or "red" equipment outages to the PACAF NOSC within 1 hour of discovery for critical ATCALS and Air Defense (AD) equipment listed in PACAF Special Instructions to Communicators (SINC). Report all incidences via landline to DSN 449-4227 IAW PACAF SINC section regarding CRITICAL AIR TRAFFIC CONTROL AND LANDING SYSTEMS (ATCALS) AND AIR DEFENSE (AD) EQUIPMENT OUTAGE REPORTING.

4.6.5.2. (Added) . PACAF equipment reliability standards are listed in **Attachment 14 (Added)**. Reliability rate is the percentage of time the system is operational divided by the amount of time it was scheduled to be operational. Reliability rates do not include scheduled maintenance actions such as PMI's.

4.6.18. Prepare and maintain a master preventive maintenance inspection (PMI) schedule for systems and commercial off-the-shelf (COTS) equipment whose technical, commercial, or user's manual suggests or mandates preventive maintenance routines.

4.19.1.4. MC will ensure reconciliation of ESR errors with the host database manager (AFI 21-103, Chapter 6).

4.19.1.5. Coordinate with the host database manager to determine responsibilities for updating AFSC specific Training Task Tables (TTT). Maintain a list of personnel and unit responsible for maintaining applicable 2EXXX TTT data.

5.3.2.3. Personnel in short tour locations should remain in work center to ensure continuity.

5.5.2.11. MS trains MSRs using AFJQS 2EXXX-201G, Maintenance Support, and will add all evaluation and report related tasks from the AFJQS to the MSR's training record. MSRs may conduct evaluations after they've passed performance evaluations and are certified on AFJQS 2EXXX-201G evaluation and report related tasks.

5.5.2.13. (Added) . Act as the single point-of-contact to the MAJCOM for Program/Mobile Depot Maintenance.

5.13.4. Maintenance support reviews local work cards for technical accuracy and forwards validated work card sets to the Chief of Maintenance (COM) or Chief of Mission System Flight (CMSF) for signature.

5.13.5. Local work card sets should be in the same format as Air Force-published technical order equipment work cards. They may be published on AFTO Form 26D, *Inspection Work Document*, or equivalent electronic forms.

5.13.6. (Added) . Forward a copy of approved local work cards to HQ PACAF CSS/SCM for review and consideration for PACAF wide application.

5.15. No functions are exempt from MSEP other than those specifically identified in AFI 21-116, paragraph 5.17.3.5.1.

5.16.4.3. Develop local MQCCs following Attachment 2 guidance for all equipment requiring technical evaluations not otherwise covered by an AF or PACAF MQCC.

5.17.2.2.1. Perform a complete check of the facility records during technical evaluations on air traffic control and landing systems (ATCALs) subject to flight inspection. Ensure the records are available at the equipment site; the records contain all required documentation and reference data; and the certification forms are properly completed.

5.17.2.5. Critical parameters must be checked during technical evaluations on certified ATCALs equipment and results documented in the evaluation report.

5.17.3.7.2.2. In short tour locations, MS will perform these evaluations on newly assigned personnel within 60 days of assignment to the work center. Exclude dates away from the work center e.g., First Term Airman Center, Mobility school.

5.17.3.7.3.3. ATCALs tasks selected for the personnel evaluation must be of sufficient technical complexity to present a realistic measure of a technician's proficiency. Tasks involving simple meter readings alone will not satisfy this requirement. If the technician is a designated equipment certifier, at least one of the specific systems they are designated to certify will be used during the follow-on evaluation.

- 5.17.3.8.2.1. (Added) . Task selection will be based, first, upon unit performance indicators, i.e., deficiency analysis, uptime rates, NRTS, etc. If any trends exist, target those areas for evaluation.
- 5.17.3.8.2.2. (Added) . If no trends exist, select tasks based on ensuring broad task coverage for the work center and individual.
- 5.17.3.8.2.3. (Added) . Determine if work center personnel have been evaluated on tasks supporting all equipment end-item types. If any end-item type has been omitted, select tasks on that equipment.
- 5.17.3.8.2.3.1. (Added) . Do not duplicate tasks selected on the technician's previous evaluation unless a trend has been identified and requires investigation.
- 5.17.3.8.2.3.2. (Added) . You should not select tasks previously evaluated on other technicians assigned to the same work center. Choose another task unless you are investigating a possible trend.
- 5.17.3.8.2.4. (Added) . Selected tasks will provide a thorough measure of evaluatee's technical skills and be commensurate with rank (not all simple tasks).
- 5.17.3.9.3. Brief the COM/CMSF and unit commander when personnel authorized to certify ATCALS facilities are decertified due to unsatisfactory evaluation performance on ATCALS equipment.
- 5.17.4.3.7.2.1. (Added) . Review all ATCALS facility records for currency and accuracy. Compare current facility performance against existing facility reference data. Review records for compliance with AFI 13-203, *Air Traffic Control*, and AFMAN 11-225, *Flight Inspection Manual*, documentation guidance.
- 5.17.4.3.7.18. Review ATCALS facility records for currency, accuracy, and compliance with this instruction's Attachment 11, AFI 13-203, and AFMAN 11-225, *United States Standard Flight Inspection Manual*
- 5.17.6.1.3. Work center responses to discrepancies must include management actions they will take to prevent reoccurrence.
- 5.17.6.1.5.1. (Added) . For all evaluations related to ATCALS equipment and technicians, route evaluation reports resulting in unsatisfactory findings through the unit commander.
- 5.17.6.2.5. (Added) . If an evaluation is delayed, document the reason for the delay in the evaluatee's AF Form 623A, On-the-Job Training Record - Continuation Sheet, and later in the evaluation report.
- 5.17.6.3.1. Identify all technical references and MQCCs used during the evaluation.
- 5.20.2.1. Unit deficiency analysis will include, at the minimum, a trend analysis of all MSEP evaluation results. The analysis will consist of deficiency and error data collected during a quarter and compared to data collected over the previous four quarters. It will identify trends, possible causes, and include recommended management actions to permanently correct any identified deficiencies.
- 5.28.3.1. HQ PACAF/SCQ is the MAJCOM OPR for C-E maintenance training. Each unit will establish an OPR for maintenance training who will act as the unit liaison with PACAF/SCQ for all training matters. The unit maintenance training OPR will submit training requests to HQ PACAF/SCQ to include the following: Name, Rank, SSAN, Course Number, and Class ID. Send requests via e-mail to <mailto:pacaf.scq@hickam.af.mil>, DSN (315) 449-4694. The unit training OPR will ensure all requirements listed in AFCAT 36-2223 are satisfied prior to requesting training slots. The unit training OPR must make every effort to maximize en route training.
- 5.28.3.2. HQ PACAF/SCQ will conduct annual maintenance training screening. Screening will determine the maintenance training needs of each PACAF unit 2 years in the future. The unit maintenance

training OPR will forecast training as directed by the MAJCOM. Limit unit requirements to the number of quotas required to meet mission needs based on training priority codes listed in AFCAT 36-2223.

6.5.2.4. In short tour locations, supervisors should perform initial evaluations on newly assigned personnel within 30 days of assignment to the work center to ensure task proficiency.

6.5.2.8.6. (Added) . Technicians performing equipment maintenance or task training on C-E equipment as part of their normal duties must be task certified. All technicians, including SNCOs, performing these tasks must maintain an AF Form 623, Individual Training Record, to verify they are task certified.

7.2.2.5.12. (Added) . All TMDE supporting Doc tasked UTCs will maintain a current calibration and adhere to the TMDE calibration schedules to ensure UTC readiness.

A2.8.2. HQ PACAF/SCQ is the PACAF OPR for changes to C-E MQCCs.

A9.3. PACAF CSS/CC is the tasking authority for the SMT.

A9.3.1. (Added) . Although the SMT is primarily dedicated to the PACAF mission, assistance to non-PACAF units will be provided as time and workload permit and only if the request and funding comes from the non-PACAF unit.

A9.4.1. (Added) . SMT candidates send their application packages to PACAF CSS/SCM. The SCM will evaluate the packages and forward his/her selection to CSS/CC for approval. Upon approval, SCM will forward the name of the individual selected through the 2EXXX (FAM) to HQ PACAF/DP for assignment action.

A9.5.1. PACAF CSS/CC will operationally control SMT resources and direct SMT actions.

A9.5.2. The SMT Chief is the MAJCOM SMT OPR.

A9.7. (Added) . Assistance from Special Maintenance Teams. All requests for SMT assistance will be submitted to the SMT by the most appropriate means for the situation. However, the preferred method is by official message to PACAF CSS/SCM. Requests for emergency assistance may be made by telephone; however, a record copy is required within 24 hours. Requests must be initiated from the unit COM/CMSF level, as it applies, or higher.

A9.7.1. (Added) . Direct telephone contact between the unit and the SMT is required before approval of on-site SMT assistance.

A9.7.2. (Added) . Format for SMT assistance. Requests for assistance will include: Unit designation and location, Equipment nomenclature, Brief description of problem (operational/technical) or requested assistance (training, optimization), Name and DSN number for unit point of contact, Date assistance is required, and Impact if requested date is not met.

A9.8. (Added) . Unit Support for the SMT. When SMT assistance is requested, the COM/COSF will ensure the following on-site support is available for the team: Unit coordinator/point of contact, required equipment/system downtime, required test equipment is available and properly calibrated, qualified 5/7 level technicians to assist the team, administrative, logistics, and other support as required, and ensure necessary followup and corrective actions are taken on discrepancies identified by the team.

A11.2. If the facility cannot be returned to the established facility references, but facility performance meets or exceeds technical order specifications and can be verified with a ground check, the facility is considered usable. Perform complete data collection and forward existing facility reference data and newly recorded data to PACAF CSS/SCM within 5 duty days for analysis. PACAF CSS/SCM coordinates

with SMT to determine if further adjustments are required, or if a special (reference) flight inspection should be accomplished to establish new facility references. If proper facility performance cannot be verified with a ground check, report the facility's condition to the senior air traffic control supervisor as unusable and request SMT assistance.

A11.3. An authorized certifier must be present during all scheduled flight inspections. If the facility is current on certification requirements and successfully passes the periodic flight inspections, the facility is considered useable. If adjustments are made during a periodic flight inspection, that prevents the facility from being returned to the previously established facility references, complete data collection is required. Provide the applicable ATCALs certification forms to PACAF CSS/SCM for analysis. PACAF CSS/SCM will determine if further adjustments are necessary, onsite SMT assistance is required, a new ATCALs evaluation is needed, or if the newly recorded data will be used as the facility reference.

A11.4.1. Unit commanders designate, in writing, 5 or 7-level individuals as certifiers for each ATCALs facility. Technicians authorized to certify a facility must be 100 percent qualified on all 5-level core tasks on that facility, have successfully completed a personnel evaluation on that facility, meet the annual personnel evaluation requirement in paragraph 5.17.3.7.3.3., and be recommended by the work center supervisor. At deployed locations, facility certifiers must be 100 percent qualified on all locally applicable 5-level core tasks for each facility they certify. Certification authority expires when a technician exceeds 365 days beyond his or her most recent MSEP personnel evaluation. Commanders may revoke certification authority at any time.

A11.4.1.1. (Added) . When an ATCALs facility requires any type of certification and a designated certifier is not available, immediately report that ATCALs as unusable to the senior air traffic control supervisor as directed in paragraph A11.5.

A11.7.1. Work center supervisors or equipment certifiers will review facility records quarterly for completeness and accuracy. Establish the requirement and document completion in CAMS.

A11.7.2. Each facility record will be divided into six sections labeled as follows:

Tab 1 - Facility Certification and Technician Certification Designation Letter

Tab 2 - Facility Reference Data

Tab 3 - Preventive Maintenance Inspection Data

Tab 4 - PMI Ground Check

Tab 5 - Periodic Flight Inspection Reports

A11.11.2.1. For ATCALs Radio, maintain an AF Form 3600 for each end item at the facility requiring certification. Document all maintenance actions effecting certification for a period of 336 days beginning with the date of annual certification. At the end of this period complete a new AF Form 3600 to document subsequent annual certification, remove the previous AF Form 3600 from the facility record, and retain in the equipment's historical record for a period of two years.

A11.11.2.2. Maintain and file Performance Verification Worksheets for each item requiring certification in the same manner as the AF Form 3600.

A11.11.2.4. (Added) . Include current copy of the technician certification designation letter signed by the unit commander stating who is authorized to certify ATCALs communications equipment.

Attachment 14 (Added)

PACAF SYSTEMS REQUIRING OUTAGE REPORTING

Equipment	PACAF Reliability Standard
ATCALs:	
AN/FRN-45	98%
AN/FRN-44	98
AN/GRN-30	98
AN/GRN-31	98
AN/FPN-62	96
AN/GPN-22	98
AN/GPN-12	97
AN/GPN-20	96
Weather:	
FMQ-18	96
AN/UMQ-13	97
WSR-88D (NEXRAD RDA/RPG)	96
AC&W Radar:	
AN/FPS-117	99.6
AN/FPS-124	99.9
AN/TPS-75	90
ARSR- 4	99.5

Attachment 15 (Added)**IC 2004-1 TO AFI 21-116/PACAFSUP1, MAINTENANCE MANAGEMENT OF
COMMUNICATIONS ELECTRONICS****22 JANUARY 2004****SUMMARY OF REVISIONS**

This change provides new guidance to AFI 21-116, paragraph **5.17.3.7.2.2.** to allow the requirements of primary evaluations from 45 to 60 days. A bar (|) indicates revision from the previous edition.

5.17.3.7.2.2. In short tour locations, MS will perform these evaluations on newly assigned personnel within 60 days of assignment to the work center. Exclude dates away from the work center e.g., First Term Airman Center, Mobility school.

GREGORY L. BRUNDIDGE, Colonel, USAF
Director of Communications and Information