BY ORDER OF THE COMMANDER
HILL AIR FORCE BASE (AFMC)

HILL AFB MANUAL 21-115
25 APRIL 2002

Maintenance

DEPOT MAINTENANCE QUALITY ASSURANCE (QA)

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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OPR: OO-ALC/LGQ (Mr. Ron Speaks) Certified by: OO-ALC/LGQ (Mr. James L. Schroader)
Supersedes Hill AFB Manual 21-113, 17 April 2001 Pages: 47
and Hill AFB Instruction 21-115, 11 August 2000 Distribution: F

This manual establishes basic policies, procedures and describes the Ogden Air Logistics Center (OO-ALC) Quality Management System as directed by AFMCI 21-115, *Depot Maintenance Quality Assurance*, AFMCI 63-501, *AFMC Quality Assurance* and conforms with International Standard ISO 9001, *Quality Management Systems – Requirements*. The product directorates maintain workload specific quality plans that supplement this document. This manual is applicable to all organic, contract, and Depot Maintenance Inter-service Support Agreement (DMISA) workloads. Tenant organizations are excluded from these requirements.

Software Development organizations will define their own applicability in their individual Operating Instructions (OI). Glossary of References and Supporting Information are contained in Attachment 1. Hierarchical lines of quality communication for Hill AFB are illustrated in Attachment 2.

Maintain and dispose of records created as a result of prescribed processes in accordance with AFMAN 37-139, *Records Disposition Schedule.*

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed. This manual has been revised to combine Hill AFB Manual 21-113 and Hill AFB Instruction 21-115. It incorporates organizational changes reformatted to reflect changes of ISO 9001:2000, and updates to directive references.

Chapter 1

MISSION, RESPONSIBILITY, AUTHORITY AND COMMUNICATION CONTROL OF THE OGDEN AIR LOGISTICS CENTER (OO-ALC)

1.1. Introduction. This manual describes the OO-ALC Quality Management System. OO-ALC is committed to consistently procuring and producing only the highest quality products and services to meet or exceed our customer's requirements. Our philosophy is to continually work to improve the proficiency of the work force, facilitate continuous process improvement, and provide our customers with high quality aircraft, missiles, and other aerospace products and services on time, and at the promised cost.

1.2. Mission, Responsibility, and Authority. The mission of OO-ALC is to equip, maintain, and sustain United States operational forces as they execute national defense policy around the world. The Center provides worldwide engineering and logistics management for the A-10 Thunderbolt, F-16 Fighting Falcon, Minuteman and Peacekeeper Intercontinental Ballistic Missiles (ICBM). The Center performs depot level maintenance and/or support of aircraft and missile systems. The Center has responsibilities for Air Force-wide item management, depot-level overhaul and repair for all types of landing gear, wheels, brakes and tires and is the logistics manager for all conventional air munitions, solid propellants and explosive devices used throughout the Air Force. A full range of sustainment and logistics support is provided for space systems, command, control, communication and intelligence (C3I) systems. The Center provides worldwide logistical support for mature and proven aircraft. This Center is also responsible for providing photonics imaging and reconnaissance equipment; aircraft and missile training devices; avionics, hydraulics, pneumatics, radar components; instruments, winches; gas turbine engines; power equipment systems; special purpose vehicles; shelters; and software engineering, development and support.

1.3. Organization and Functional Relationships. OO-ALC is organized in a hierarchical structure.

PRODUCTION ORGANIZATIONS
Aircraft Management Directorate (OO-ALC/LA)
Electronic Management Directorate (OO-ALC/LE)
Commodities Directorate (OO-ALC/LI)
Intercontinental Ballistic Missile (ICBM) System Program Office (OO-ALC/LM)
Technology and Industrial Support Directorate (OO-ALC/TI)
649 Combat Logistics Support Squadron (649CLSS)
649 Munitions Squadron (649MUNS)
651 Munitions Squadron (651MUNS)

LOGISTICS MANAGEMENT ORGANIZATIONS
Mature & Proven Aircraft (MAPA) Directorate (OO-ALC/LC)
Space and Command, Control, Communication and C3I Systems Directorate (OO-ALC/LH)
Specialized Management Directorate (OO-ALC/QL
Air-to-Surface Munitions Directorate (OO-ALC/WM)
F-16 Management Directorate (OO-ALC/YP)
Training Systems Management Directorate (OO-ALC/YW)

SUPPORT ORGANIZATIONS
Small Business (OO-ALC/BC)
Environmental Management Directorate (OO-ALC/EM)
Financial Management Comptroller Directorate (OO-ALC/FM)
Logistics Directorate (OO-ALC/LG)
Contracting Directorate (OO-ALC/PK)
Safety Directorate (OO-ALC/SE)
Plans and Programs Directorate (OO-ALC/XP)

1.3.1. Production Organizations.

1.3.1.1. OO-ALC/LA – Provides depot repair, modification, and maintenance support for the following: A-10 Thunderbolt; Air Force, Navy, Marine and foreign military C-130 Hercules; F-16 Fighting Falcon; Air Launch Cruise Missile and Advanced Cruise Missile. Provides structural-composites test, repair, manufacturing and modification of A-10, B-2, C-130, F-4, F-16, F-111 aircraft and components.

1.3.1.2. OO-ALC/LE – Provides repair, overhaul, and modification for electronics, avionics, radar, navigational, laser guidance systems, instrumentation, photonics, and electrical systems and components. Supports programmed depot maintenance and modification of aircraft weapons systems and worldwide re-supply support for component parts. Designated as the technical source of repair for the Air Force metrology and calibration program on assigned systems and components, and manages the Support Center Pacific, Kadena, AB, Japan.

1.3.1.3. OO-ALC/LI – Responsible for the management of weapon systems to actual depot level repair. Workloads include: Material Group Manager (MGM) for all Air Force landing gear, wheels, brakes, tires, power systems, Power Conditioning & Continuation Interfacing Equipment (PCCIE), photonics, reconnaissance, and imaging systems. Air Force Technical Repair Center for hydraulics, power systems, pneudraulics, 20mm guns, launchers and adapters.

1.3.1.4. OO-ALC/LM – The ICBM (SPO) develops, acquires, and supports silo-based ICBMs and provides program direction and logistics support as the single face to the customer. Responsible for acquisition, systems engineering and depot repair support; manages equipment

spares; provides storage and transportation; and, accomplishes modifications and equipment replacement. The ICBM Prime Integration Contract (PIC) Program Management Office (OO-ALC/LM(3)), is charged with day-to-day execution and management of the PIC. The office is accountable to the SPD for cost, schedule, and technical performance of the ICBM prime contractor. OO-ALC/LM(3) supports the other SPO divisions by working with Engineering Service Modifications Guidance and Navigation Branch to translate requirements for engineering services and/or modification/replacement programs into the necessary contracting actions.

1.3.1.5. OO-ALC/TI – Provides maintenance, engineering, and planning for industrial facilities; maintains chemical, material, and verification laboratory services; manages and conducts Non-Destructive Inspection (NDI), world-wide Mobile Depot Maintenance (MDM), battery and consolidated machine shops, administrative and contract support; maintains Depot Maintenance Activity Group (DMAG) infrastructure support, including real property maintenance in support of the Center's industrial processes; provides hardware technology and worldwide weapons system software support to include operational, simulation, and automatic test equipment applications; performs research and development studies, test, and analysis of software and software applications; operates the USAF Software Technology Support Center (STSC), and manages engineering and technical advancement.

1.3.1.6. 649 CLSS – Provide operational commanders with highly trained Aircraft Battle Damage Repair (ABDR) teams in support of worldwide operational requirements. Provide worldwide customers with specialized depot/heavy maintenance repair capability at home station and deployed locations at the best cost, on time, and error free.

1.3.1.7. 649 MUNS – Responsibilities are to receive, store, maintain, account for and generate Department of Defense Day-to-Day and Standard Air Munition Pacakages/Standard Tanks, Racks, Adapters and Pylon Packages (STAMP/STRAPP) to support contingencies worldwide. Conduct munitions testing for weapon system sustainment of conventional munitions, components and ICBM rocket motors. Unit deployment tasks include Aerospace Expeditionary Force support as well as Munitions Port Teams for worldwide mobility.

1.3.1.8. 651 MUNS – is a geographically separated unit at Lackland AFB, TX. Its mission is to rapidly provide war-fighting commanders with aircraft munitions and weapons release equipment to meet worldwide contingencies and conflicts. Its secondary mission is to provide regionalized munitions Core Automated Systems Base Support to Air Force Bases in Southern Texas.

1.3.2. Logistics Management Organizations.

1.3.2.1. OO-ALC/LC – Provides complete logistical support of assigned aircraft systems. Responsible for the acquisition of new and/or improved capabilities, and sustainment of existing

systems/subsystems. Support for assignment systems includes acquisition, modification, engineering/technical support, maintenance and repair. Directs, plans and manages the interface between domestic and foreign customers and the directorate.

1.3.2.2. OO-ALC/LH – A group-level organization that sustains, upgrades, develops, and acquires ground based segments of 19 major Space and Command, Control, Communications, and Intelligence (C3I) Systems. Supports all DOD, CINCs, MAJCOMS, federal agencies, foreign military sales, and Presidential telecommunications systems. Manages an operating budget of $3.5B, with 600 people providing worldwide logistics support.

1.3.2.3. OO-ALC/QL – Responsible for the management and sustainment of programs set-aside for tailored management procedures. Uses approved, streamlined procedures, to ensure adequate and timely program management, systems development, acquisition, integrated logistics, and security support for space; command, control, communications, and intelligence (C3I) systems; low observable technologies; foreign material acquisition and support and the western test and training range support.

1.3.2.4. OO-ALC/WM – Provides timely, efficient and cost effective inventory, transportation, safety and demilitarization services to the United States Air Force and Foreign Military Sales customers, striving to become the single integrated management center.

1.3.2.5. OO-ALC/YP – A group-level organization managing the engineering and manufacturing development, production, modification, sustainment, and worldwide deployment of over 4,000 F-16 A/B/C/D fighter aircraft for units of the Combat Air Forces of the United States and 20 foreign nations.

NOTE: The F-16 has over 50 configurations with extensive foreign co-production and is distinguished as the most complex acquisition program in the Department of Defense.

1.3.2.6. OO-ALC/YW – Serves as Air Force Materiel Command (AFMC) System Support Manager (SSM) to the Training Systems Product Group (TSPG) Manager for all training devices' subsystems/programs/projects/services and associated items. Ensures logistics support on the above responsibilities is provided to Air Force, Air Force Reserve (AFRES) and Air National Guard (ANG) activities; International Logistics Program (ILP) countries; and other government agencies where inter-service support agreements have been set up.

1.3.3. Support Organizations.

1.3.3.1. OO-ALC/BC – Increases participation of small, disadvantaged, and women-owned businesses in Air Force procurement. Offers individual counseling sessions to provide assistance in understanding procurement regulations and practices, determines the appropriate buying office

for specific business products and services, provides advice on how to best pursue contracting opportunities, and provides pertinent information on present and future procurements. Also develops sources on non-competitive items; sponsors contractor requests for source qualification on items and repair services, and tracks the processing of course approval requests to ensure consistent, timely and complete evaluation.

1.3.3.2. OO-ALC/EM – Manages environmental programs, systems, and procedures to ensure compliance with federal, state, and local environmental laws and regulations to minimize risks and potential liabilities while being responsible stewards over the natural resources; i.e. air, water, and land under jurisdiction of OO-ALC, Utah Test and Training Range, Little Mountain Test Annex, and Boulder Seismic Station.

1.3.3.3. OO-ALC/FM – Responsible for the overall financial management of appropriated and working capital fund accounts. Performs analysis and oversight of Non-Appropriated Fund activities. Responsibilities include: budget preparation, execution reporting, accounting, cost analysis, and the broad spectrum of financial duties. Advises the Commander, Staff, and Product Directors of overall financial plan and Program Objective Memorandum (POM) development issues and processes. Responsible for the accounting and reporting of all OO-ALC financial transactions.

1.3.3.4. OO-ALC/LG – Functions as the resource management, planning, and policy development staff for the Center. Ensures optimal application of Center resources. Center focal point for all matters concerning requirements and supply support. Responsible for determining overall maintenance and repair capabilities for the Center and the distribution of Depot Maintenance Activity Group (DMAG) manpower resources. Provides Center supply support to include material management, procedures and analysis, inventory, computer operations, weapon system support, and fuels contract surveillance. Provides supply support to include aircraft, engines, and accessories accounting and depot maintenance material support. Provides support for logistics information systems and procedures. The Center Quality Division (OO-ALC/LGQ) resides in this Directorate.

1.3.3.5. OO-ALC/PK – Responsible for providing worldwide contracting support and business advice for various weapon systems and commodities; including the F-16 aircraft the Minuteman and Peacekeeper ICBM's; aircraft and missile simulators; landing gear, wheels, brakes, and tires; cartridge and propellant activated devices; airborne photographic equipment; space; C3I (Command, Control, Communications, and Intelligence); mature aircraft; power systems (Power Conditioning and Continuation Interfacing Equipment (PCCIE) and Gas Turbine Engine); Aerospace Expeditionary Forces; and operational contracting support to military and civilian personnel at Hill AFB and assigned units. Also responsible for ensuring all contracting personnel at the Center are trained and equipped to perform the duties required in the product directorates and support organizations.

1.3.3.6. OO-ALC/SE – Implements the Center Commander's Flight, Ground, System and Weapons safety programs ensuring the Center mission is accomplished in a safe and efficient manner.

1.3.3.7. OO-ALC/XP – Responsible for the management of plans, programs, studies, contingency or crisis action planning, and readiness, affecting the Center's current and future missions. Ensures that procedures are developed to provide for the transition of the Center from peacetime to a wartime baseline. Functions as the Center manager for plans and policy to ensure optimal application of Center resources (manpower, land, and facilities) and a balanced capability to accomplish assigned Center workload to attain the optimum readiness posture. Manages the Center manpower requirements to include resource allocation, organizational control, and manpower studies. Functions as the Corporate Business Planner and accomplishes special projects at the discretion of the Center Commander. Makes recommendations to the Center Commander on placement of new missions within the Center.

Chapter 2

QUALITY MANAGEMENT SYSTEM

2.1. General Requirements. The goal of the OO-ALC Quality Management System is to provide total satisfaction to our customers by ensuring that we provide them with quality products and services. This is assured by ongoing inspections and tests performed by Production Acceptance Certification (PAC) certified technicians, and independent surveillance and evaluations performed by quality organizations within each of OO-ALC's directorates. Inspection and defect data are analyzed by directorate personnel for trends and necessary corrective action as outlined in AFMCI 21-132*, Depot Maintenance Technical Compliance Review Procedures* and this manual. The principles of ISO 9001; the AFMC Quality Assurance (QA) initiative; management oversight of the quality system; the PAC and Training Program; and other quality management standards outlined in this manual, form an integrated quality management program, that ensures customer satisfaction and complies with Air Force Material Command (AFMC) and private sector quality requirements. The OO-ALC Quality Management System is further defined by the following elements.

2.2. Documentation Requirements. The Quality Management System is a hierarchical structure beginning with. AFMCI 21-115 and AFMCI 63-501. This manual describes the OO-ALC Quality System. Each directorate develops Operating Instructions (OI) to further detail their local implementation instructions. In addition, production Work Control Documents, technical data, drawings, specifications, etc. provide technicians with working level instructions. Finally, forms, records, reports, and completed work documents provide the historical documentation of the quality program.

2.2.1. Quality Manual. This document constitutes the OO-ALC Quality Manual.

2.2.1.1. Quality Assurance Plans (QAP). All directorates with industrial processes (OO-ALC/LA, OO-ALC/LE, OO-ALC/LI, OO-ALC/LM, and OO-ALC/TI) will create and maintain specific QAPs at directorate and/or division level. These plans should address and document how the organization intends to accomplish and comply with the applicable requirements of this manual, AFMCI 21-115, ISO 9001, and any other directives that are determined necessary to ensure product conformance and customer satisfaction. QAPs are published, reviewed, and controlled internally within each product directorate according to guidelines established in AFMAN 10-401, *Operational Plan and Concept Plan Development and Implementation.* Quality system support organizations will have internally documented procedures, as deemed necessary, to supplement higher authority publications. This manual and all workload quality assurance plans will be reviewed for currency and adequacy at least annually.

2.2.2. Control of Documents. This quality manual shall be controlled and updated through OO-ALC/LGQ. The product directorate QAPs shall be controlled and updated through each product directorate's quality office.

2.2.2.1. Document and Data Control. The types of documents and data used at OO-ALC that require control; and the publications, instructions, and Technical Orders (TO) that provide the guidance and instructions for their control, are identified in the following paragraphs. Documents and data unique to a directorate (e.g. ICBM Utility Technical Manuals and NAVAIR TO) are described in directorate QAPs.

2.2.2.1.1. USAF TOs. The USAF TO system is described in TO 00-5-1, *AF Technical Order System*. The distribution, maintenance and control of TOs are prescribed in TO 00-5-2, *Technical Order Distribution System.* AFMCI 21-301, *Air Force Material Command Technical Order System Implementing Policies* is consulted to establish TO policies.

2.2.2.1.2. Additional requirements concerning the use of technical data within the Center are published in AFMCI 21-110, *Depot Maintenance Technical Data and Work Control Documents,* and *Hill Supplement 1*.

2.2.2.1.3. Recommendations for improvements to TOs are made, by submitting an AFTO Form 22, *Technical Manual (TM) Change Recommendation and Reply,* according to instructions provided in TO 00-5-1.

2.2.2.1.4. In the Product Directorates (OO-ALC/LA, OO-ALC/LE, OO-ALC/LI, OO-ALC/LM, and OO-ALC/TI), the Technical Order Distribution Office (TODO) functions required by TO 00-5-2 are contracted out to a civilian contractor. The Services Branch (OO-ALC/PKOS) administers the contract. Quality Assurance Evaluators (QAE), assigned to the Support Branch (OO-ALC/TIPT) provides quality assurance oversight. Refer to Hill AFB Instruction 21-301, *Technical Order System* for internal procedures and responsibilities.

2.2.3. Engineering Data (Aperture Cards/Drawings). Aperture cards used in support of OO-ALC workloads are stored by the Technical Data Management Branch (OO-ALC/TIED) in the Engineering Data Service Center (EDSC) located in Building 1218.

2.2.3.1. Aperture cards are controlled in accordance with AFI 21-401, *Engineering Data Storage, Distribution, and Control* and AFI 21-402, *Engineering Drawing System.* If in unique situations, aperture cards/drawings are received and stored in the product directorates, they should also be controlled in accordance with AFI 21-401 and AFI 21-402.

2.2.3.2. New weapon system contracts that procure engineering drawings contain requirements for delivery of digital data. Drawings are delivered in a format that is compatible with the Joint Engineering Data Management Information and Control System (JEDMICS). JEDMICS is the

digital storage for engineering drawings. The system allows on-line access and printing capability to customers.

2.2.4. Work Control Documents (WCD). WCDs are prepared, approved, issued, and controlled by the Production/Engineering Planning sections within each of the product directorates according to AFMCI 21-110.

2.2.4.1. Completed WCDs generated during work performed by the product directorates become an integral part of the inspection records of completed products. Completed documents are forwarded to the applicable scheduling functions.

2.2.4.2. Types of WCDs and the details of their application will be defined in directorate quality plans.

2.2.5. Process Orders. Process Orders are used, where needed, to describe specific applications, procedures, techniques, methods, and shop practices to complement technical data, and are developed, coordinated, and controlled according to AFMCI 21-110.

2.2.6. Center Level Directives. Center level directives and directorate/division OI's are published according to AFI 33–360, Volume 1*, The Publications Management Program.* The Publishing Management (75 CS/SCSP) office has responsibility for managing, processing, and maintaining record copies of center directives. Customers may retrieve publications on the Internet.

2.2.7. Waivers. All requests for waivers or deviations from the QA requirements stated in AFMCI 21-115 or AFMCI 21-132 will be signed by a Director/Deputy Director, and submitted to OO-ALC/LGQ. OO-ALC/LGQ will coordinate all requests for waivers or deviations, and will obtain the signature of the OO-ALC Commander or Executive Director prior to forwarding to Headquarters (HQ) AFMC/LG for approval.

2.2.8. Control of Records. Records are forms, reports, and completed work documents, etc. that provide historical documentation of the quality management system. Records shall be established and maintained in the directorates to provide evidence of conformity to requirements and of the effective operation of the quality management system. Records shall remain legible, readily identifiable, auditable and retrievable.

2.2.8.1. Guidelines for records management are contained in AFI 37-138, *Records Disposition--Procedures and Responsibilities and* AFMAN 37-139*, Records Disposition Schedule.* Specific instructions, given in a governing directive concerning control of specific quality records, take precedence over general instructions. Refer to the product directorate QAPs, or specific office file plans for specific details.

Chapter 3

QUALITY MANAGEMENT RESPONSIBILITIES

3.1. Commitment to Quality. The following individuals, teams, forums, and programs work in concert to implement the Center's Quality Management System policy: OO-ALC is committed to consistently procuring and producing only quality products and services to meet our customer's requirements. Our philosophy is to continually work to improve the proficiency of the work force, facilitate continuous process improvement, and provide our customers with quality products and services. The Center Commander provides senior leadership and guidance for establishing the OO-ALC Quality Management System policy, and ensuring that the quality goals of OO-ALC are realized to the fullest extent possible.

3.1.1. Strategic Plan. The Strategic Plan aligns the Center's planning process to support AFMC's SP. The plan includes goals, Mission Essential Tasks (MET), performance measurements, and standards. The Center's senior managers conduct periodic reviews the METs of the six mission areas and quality programs applicable to each organization. OO-ALC's quality objectives are included in this document.

3.1.2. Quality Management Board (QMB). The QMB is the Center's senior management board chaired by the Executive Director (OO-ALC/CD), and consists of the Directors from all production and key support organizations. The purpose of this Board is to keep Center senior-level managers informed of the health and well being of the QA program, cross-feed information to all senior managers, evaluate program performance, and make program improvements. This body meets monthly. Quality performance indicators as required by AFMCI 21-132 and this manual are reviewed quarterly.

3.1.3. Production Council. The Production Council (formerly known as, Forum of the Fixers) consists of key Depot Maintenance Activity Group (DMAG) production division chiefs. The Council manages production, quality, and cost aspects of the Center's maintenance activities. The primary focus of the Council is to find common solutions to make the Center more competitive in quality and production of workloads. Typically their actions address Center-wide process improvements in areas such as finance, training, personnel actions, cost reductions, and quality programs.

3.1.4. Quality Assurance Division (OO-ALC/LGQ). OO-ALC acts as the principle advisor on quality management, sets the commander's quality agenda, and monitors quality program implementation and results through the OO-ALC QMB. OO-ALC/LGQ assists product directorate management in implementing Center goals and objectives that integrate senior leadership commitment and continuous quality improvement into Center processes. OO-ALC/LGQ periodically reports to the QMB and Production Council on the status of Center

product quality programs, and is responsible for sharing pertinent information with others.

3.1.5. OO-ALC Quality Assurance Forum (QAF). The QAF is chaired by OO-ALC/LGQ and consists of Quality Focal Points from OO-ALC/LA, OO-ALC/LE, OO-ALC/LI, OO-ALC/LM, OO-ALC/PK, OO-ALC/SE, OO-ALC/TI, 649 CLSS and 649 MUNS. The Air Force Government Employee's (AFGE) local union representative is also an integral part of this Forum. OO-ALC/LGQ will maintain a current listing of QAF members. The QAF provides a forum to address HQ AFMC and Center quality issues, initiatives, and policies applicable to OO-ALC products and services. The QAF assesses the Center quality system and makes improvements to this manual as needed.

3.2. Customer Focus. OO-ALC personnel realize that meeting or exceeding our customer's expectations makes Hill AFB, the logistics source of choice. Senior management shall determine the necessary actions and goals of the Center Quality Program to ensure customer requirements are met or exceeded with the aim of enhancing customer satisfaction. Numerous venues and vehicles are in place to obtain customer requirements and feedback. For example: twenty-four hour contact points, customer service offices, program and weapon system reviews, deficiency report action offices, and customer satisfaction survey forms included with overhauled products.

3.3. Quality Policy. OO-ALC is committed to procuring and producing only quality products and services. Our policy is to continually work to improve the proficiency of the work force, facilitate continuous process improvement, and provide our customers with quality products and services. The Center Quality Management System is committed to aiding and directing compliance with AFMC requirements. It will provide a framework for establishing and reviewing quality objectives, communicating the objectives throughout the Center, and a review process for continued suitability. The Center's quality objectives are listed in the OO-ALC Strategic Plan.

3.4. Quality Management System Planning. Directorate management is responsible for the quality planning of their organization. This planning is achieved through the interaction of the QMB, Quality Forum, key process OPRs and the staff in quality divisions. Planning efforts focus on process definition, quality objectives and requirements consistent with the strategy of the organization.

3.5. Responsibility, Authority, and Communication.

3.5.1. Responsibility and Authority. Senior leadership will define responsibilities, authority and establish lines of communication within their organization. (See Attachment 2 for Hill AFB's lines of quality communication)

3.5.2. Management Representative. OO-ALC/LGQ serves as the Commander's management representative for the Center Quality Management System, and serves as the Center QA Focal Point.

3.5.3. Internal Communication. Management shall establish appropriate communication processes in their organization that ensure communication takes place regarding the effectiveness of the Quality Management System (e.g. Management Review Board, QMB, Production Council).

3.6. Management Review. The QAF, QMB, OO-ALC/LGQ and each directorate's quality organization are responsible for developing and implementing the Center Quality Management System. The objective of AFMC's Quality Assurance initiative is to provide directorate and division managers with oversight and visibility through autonomous surveillance and evaluations to improve the proficiency of the work force, and facilitate continuous process improvement. The surveillance and evaluation requirements consist of Quality Verification Inspections (QVI), Task Evaluations (TE), Core Inspections (CI), Unit Compliance Inspection (UCI) Program, and Maintenance Standardization Evaluation Program (MSEP) as mandated by AFMCI 21-115 and AFMCI 21-132. The various Quality Performance Indicators (QPI) collected within OO-ALC for Quality Management Board (QMB) and directorate reviews are those mandated metrics in AFMCI 21-115 and AFMCI 21-132. Other forums for management review within the Center are the Strategic Planning Process, directorate and division workload/management reviews, and business reviews such as DMAG, and Supply Management Activity Group (SMAG), etc.

3.6.1. Review Input. The following assessment programs form the framework of our quality management system:

3.6.1.1. Maintenance Standardization Evaluation Program (MSEP). An annual review and evaluation conducted by the Inspector General AFMC/IG to assess compliance with technical data, maintenance training and PAC, quality assurance and other maintenance disciplines that impact product and process conformance throughout depot maintenance operations. The MSEP is conducted using program-level and task specific checklists published by AFMC/IG, plus selected tasks and operations that are evaluated by performance of task evaluations and quality verification inspections. The Findings and Recommended Improvement Areas (RIA) resulting from IG MSEP Inspections will be tracked in an OO-ALC/LGQ controlled and centralized database. Approved organizations will have access to their files and database to update and use it as a real time record of their findings, status, corrective actions taken, OPR identification, and a tracking tool for follow-up actions.

3.6.1.2. Unit Compliance Inspection (UCI). The UCI is conducted approximately every three years by the AFMC/IG. The team looks at compliance with items/activities required for safety,

as well as items required by federal law, executive order, Department of Defense directives or instructions, or command policy directives and initiatives. It is intended to evaluate an organization's ability to execute a management system leading to a sustained and effective mission performance. It is also intended to identify obstacles to mission accomplishment, as well as best practices. Detailed criteria concerning the UCI can be found in AFMCI 90-202, *Command Level Inspector General Activities*. A link to a UCI Inspection checklist directory is available on the Inspector General AFMC/IG Homepage.

3.6.1.3. Unit Self-Inspection. Organizational OPR's and their teams will accomplish annual self-inspections during January/February using higher headquarters checklists, center subject area expert checklists, and locally developed checklists. The results, after being approved by the Director/Wing Commander, will be sent to the OO-ALC/IG no later than the first week in March. The report-format, as well as other details pertaining to the Unit Self-Inspection is contained in the Hill AFB Supplement to AFMCI 90-202. The Unit Self-Inspection is managed by OO-ALC/IG.

3.6.1.4. Annual Technical Compliance Review. A Center wide technical compliance review will be accomplished annually midway between MSEP inspections, as established by AFMCI 21-132. The review will be planned, coordinated, and executed by OO-ALC/LGQ. The review team will be composed of subject matter experts from Center organizations. Procedures for accomplishing the review are documented in the implementation plan maintained by OO-ALC/LGQ.

3.6.1.5. Surveillance and Evaluations**.** Surveillance and evaluations are performed by product directorate quality organizations evaluate maintenance disciplines, compliance, and the technical proficiency of the workforce on a continual basis. The resulting corrective and preventative actions taken to correct the findings, the monthly analysis and review of the data at -level, and quarterly at Center-level, provide all managers the visibility they need to properly assess, and react to quality/process deficiencies. (refer to AFMCI 21-115 and AFMCI 21-132).

3.6.1.6. Conformance Verification Program (CVP). The purpose of the CVP is to evaluate the quality level of the numerous component parts procured in support of organic maintenance or for resale to end users. Under this program, a monthly sample, both random and selective of incoming parts from contractors are inspected and/or tested to determine conformance to contract specifications. Any problems with nonconforming parts are resolved with the contractor, and appropriate restitution is made to the Air Force. The CVP is managed in the Laboratory Branch OO-ALC/TIEL.

3.6.2. Review Output. OO-ALC/LGQ is the consolidation point for reports generated from the reviews addressed in the preceding paragraphs. OO-ALC/LGQ will coordinate responses and provide reports to higher management and HQ AFMC as required.

Chapter 4

RESOURCE MANAGEMENT

4.1. Provision of Resources. Senior leadership shall ensure that the resources essential to the implementation of strategy and the achievement of the organization's objectives are identified and made available. This should include resources for operation and improvement of the quality management system, and the satisfaction of customers and other interested parties. Resources may be people, infrastructure, work environment, information, suppliers and partners, natural resources and financial resources.

4.2. Human Resources. Each directorate is responsible for identifying employee-training needs, and ensuring they receive the training required to perform assigned duties. The responsibility for providing training at OO-ALC is shared by Education and Training Flight (75 MSS/DPE) and OO-ALC/TIU.

4.2.1. Employment Development and Operations (75 MSS/DPEO) provides guidance and assistance in meeting base training needs. 75 MSS/DPEO assists managers, supervisors, organizational training monitors, and employees in planning, developing, and managing base training programs. 75 MSS/DPEO is responsible for implementing the requirements of AFR 40-410*, Employee Training and Development*.

4.2.2. Education Services and Military Training (75 MSS/DPEE) provides educational opportunities to meet the immediate and long-range needs through individual professional development with off-duty education programs for military members and various combinations of formal training, on-the-job training (OJT) and professional military education.

4.2.3. Industrial and Logistics Training Division (OO-ALC/TIU) provides workforce functional training in technical, industrial, logistics, and small computer skills. OO-ALC/TIU also assists supervisors and organization training monitors to plan, develop, and manage functional training requirements. AFR 40-410, *Employee Training and Development,* provides the basic guidance for determining needs, validating requirements, financial planning, obtaining resources, and also evaluating, documenting, and reporting training. AFMCI 36-201*, Education and Training Process Guide,* translates identified needs into specific training requirements.

4.2.3.1. CAMS was developed and designed to facilitate all activities engaged in maintenance of aircraft, missiles, munitions, communications, and aerospace ground equipment (AGE). The training system components include information on required training courses, inspection and certification courses, special qualifications, current training status, due and completed dates, employee training history, and automated job qualification standards. At an unspecified date in the future, ETMS will replace CAMS.

4.2.4. Quality Assurance Specialist (QAS) Training. All QASs will be required to complete the core training requirements as required in AFMCI 21-115, and any additional training requirements stated in the directorate's Quality Assurance Specialist Training Plan and/or QAP prior to performing independent surveillance or evaluations.

4.2.5. Production Acceptance Certification (PAC) Program. The PAC Program is an integral part of the quality management system described in this manual. PAC ensures production personnel are trained and certified to perform assigned tasks. It also places responsibility for product quality on the responsible product directorate and conformance to requirements for products and services on the individual performing the work. The PAC program manager is assigned to OO-ALC/LGQ. Details of the PAC program are published in AFMCI 21-108, *Maintenance Training and Production Acceptance Certification*, and *Hill AFB Supplement 1*, and product directorate OIs.

4.2.6. Center Maintenance Training and PAC Council**.** The Center QMB also serves as the Center Maintenance Training and PAC Council and is chaired by the Commander (OO-ALC), Vice Commander (OO-ALC/CV), or Executive Director (OO-ALC/CD). Members are: the Product Directors, the AFGE Local President or designee, and other senior leaders deemed appropriate. PAC and training issues will be briefed at the QMB on a quarterly basis. The charter for this council is prescribed in AFMCI 21-108.

4.2.7. Center PAC Program Manager. The PAC Program Manager works with the Product Directorate/Division Training and PAC Managers to form the Maintenance Training PAC working group. Responsibilities of the Center PAC Program Manager are described in AFMCI 21-108.

4.2.8. Center Maintenance Training Manager. The Center Maintenance Training Manager works in concert with the Center PAC Program Manager. Responsibilities of the Center Maintenance Training Manager are described in AFMCI 21-108.

4.2.9. Center Maintenance Training and PAC Working Group. This group is composed of all Product Directorate/Division Maintenance Training Managers and PAC Program Managers, a representative of the AFGE Local, and chaired by the PAC Program Managers. Responsibilities of the Maintenance Training and PAC Working Group are described in AFMCI 21-108.

4.3. Infrastructure. Center organizations shall determine , provide and maintain the infrastructure needed to achieve conformity to product and service requirements, and address these issues in their Quality Plans. Infrastructure includes:

4.3.1. Buildings, workspace and associated utilities.

4.3.2. Process equipment (both hardware and software).

4.3.3. Supporting services (such as transport of communication).

4.4. Work Environment/Facilities. The facilities used at the Center must be maintained to create an environment conducive to quality workmanship. The Center organizations are responsible to ensure facilities meet all workload, safety, and personnel requirements. They will address work environment and facility issues in their Quality Plans

Chapter 5

PRODUCT REALIZATION

5.1. Planning of Product Realization.

5.1.1. Production Planning Team. Prior to beginning a new/revised workload, a Pre-Production and Production Planning Team composed of primary planning, production and quality assurance functions, representatives of the SPD production management and technical functions will play a major role in the pre-production/production planning process. The magnitude of pre-production/production planning is determined by the complexity of weapon system/end item and by the requirements established and negotiated by the responsible program/item manager. Refer to AFMCI 21-110.

5.1.2. Depot maintenance activation, long-range planning and pre-production/production planning guidelines are provided in AFMCI 21-101, *Depot Maintenance Activation Plan (DMAP);* and AFMCI 21-110.

5.1.3. QAS's assigned to the product directorate quality organizations will act as the quality representative to all Production Planning Teams (PPT). These QA representatives will act as the liaison between the quality organization and members of the PPT during all phases of workload negotiations, pre-production, operational, and quality planning. The QAS will keep members of the PPT informed of all quality requirements contained in the statements of work, competitive workload contracts, or requirements identified during workload negotiations. Additionally, the QAS must ensure the quality requirements are incorporated into the WCDs.

5.1.4. The product directorates will establish and document quality-planning procedures that comply with the requirements of AFMCI 21-115 and AFMCI 21-110 in their Quality Assurance Plan (QAP) or supporting Operating Instruction (OI).

5.2. Customer Related Processes. OO-ALC provides many different types of products and services which fall under three broad categories: Organic; Depot Maintenance Inter-service Support Agreement (DMISA); and Contractual. A core function of OO-ALC is repair/overhaul of aeronautical systems and their components. The majority of this work is categorized as organic (internal to the Air Force). OO-ALC also accomplishes work for other branches of the military under the DMISA program. There are situations where the Center can bid on a workload being placed on contract by the Air Force or another branch of the service. This section of the manual addresses the identification of customer requirements, contract review activities, process planning changes, and record keeping for these three types of work. Determination and review of requirements related to the product. Initial and periodic review of organic, contract, and inter-service workload requirements (customer) is accomplished to ensure

OO-ALC has the facilities and resources to fulfill the workload requirements and needs of the customer. The Maintenance Requirements Review Boards (MRRB), (DMISA), or contract specific customer requirements are used by the production planning teams to accomplish the various planning functions as detailed in AFMCI 21-110.

5.2.1. Organic. No formal written contract is used to manage organic work. The System Program Office (SPO) works in concert with the operational commands to quantify and negotiate requirements for repair or modification. Since technical requirements are set by technical orders (TO) and engineering drawings, the term "requirement" means the quantity of products to be produced. A MRRB is convened at the ALC to review and establish the workload for the next fiscal year. Each of the OO-ALC Product Directorates have processes established for accomplishing repairs or modifications according to AFMCI 21-110 and AFMCI 21-115. For new items entering the repair system, Industrial Engineering Technicians (planners) develop work instructions in the form of WCDs. The workload is planned and managed through the use of these WCDs. The WCD is a certifiable sequence of work operations and inspection criteria used to complete manufacturing, repair, and functional testing of an item. It is based on technical data and kept current by the planners. 6.2.1.2. The Center maintains a Project Administration Office (PAO) for processing individual changes in the scope of organic work being performed on major end items such as aircraft. Permanent changes in the scope of work performed on major end items is negotiated as part of the annual repair, or programmed depot maintenance requirements.

5.2.2. Depot Maintenance Inter-service Support Agreement. When OO-ALC is selected as the source of repair under the DMISA program, the Center Maintenance Inter-service Support Officer (MISO) works with the Production Management Specialists in the appropriate product directorate that will perform the work and other applicable support functions to initiate the production planning and agreement negotiation processes. The DMISA program in the Air Force is managed according to AFI 21-133, *Joint Depot Maintenance Program.* The DMISA document is negotiated in a meeting with the other services customers. The production process is planned and managed using the processes and guidance mentioned above under organic workload. Problems or changes to the agreement are processed through the Center MISO.

5.2.2.1. The quantity and type of items to be repaired under the DMISA agreements are negotiated annually. Every fifth year, all elements of the agreement are reviewed and renegotiated as necessary.

5.2.2.2. Documents and records for the DMISA agreements are stored in the Center MISO office located in the Logistics Depot Maintenance Division (OO-ALC/LGP) and with the Production Management Specialists and Industrial Engineering Technicians in the product directorates.

5.2.3. Contract. When the Center competes for a workload being placed on contract, additional procedures for identifying and addressing customer's requirements apply. OO-ALC/FM is the office of primary responsibility for the competition and proposal preparation processes. The process begins with a detailed review of the customer's requirements listed in the Request for Proposal (RFP) and an evaluation of the Center's ability to perform the work according to the customer's requirements. The Competition Team, consisting of functional experts from production and support processes, performs the evaluation using a locally developed cross-reference checklist. The checklist helps the team aggregate, analyze, and manage customer requirements during the preparation of a bid proposal. In most cases the evaluation includes, but is not limited to, the following elements:

Drawing/specification clarity and current revision.
Customer/government source inspection requirements.
Statement of Requirements, Statement of Work or Work Breakdown Structure.
Special processes required.
Special tooling and equipment requirements.
Approval sources for materials and processes.
Control of customer/government-furnished property.
First production article inspection requirements.
Defense Federal Acquisition Regulation requirements.

An independent team to verify that all elements of the RFP (customer requirements) have been addressed reviews bid proposals. The proposal must demonstrate that the Center has in position, the resources and ability to meet the contract requirements, or provide a detailed plan as to how the contract will be met.

5.2.3.1. The post-award phase begins upon award of a contract. Prior to acceptance, the contract is reviewed for changes or discrepancies requiring clarification. After accepting and signing the contract, the directorate that will be performing the work conducts a final review of the contract and related documents to ensure all requirements are addressed in the production processes, procedures, and WCDs. When called for in a contract, the Center will establish a special Project Administration Office (PAO). This office serves as a steward for the customer and provides a direct link to the Center Commander, tracking key customer concerns such as contractual performance, delivery, costs, etc. The Center's performance is measured against the contract line items in the RFP and proposal. The Defense Contract Management Agency (DCMA)maintains an oversight role on contract workload. The Defense Contract Audit Agency (DCAA) also reviews the contracts awarded under competition for completeness and accuracy.

5.2.3.2. Changes in contract workload processes or scope are reviewed by both parties and processed by the Administrative Contracting Officer (ACO) as amendments to the contract. Records of contract review reside with the Production Administrative Officer and, as applicable,

the Industrial Engineering Technicians. The DCMA, formerly DCMC, provides services similar to those of the PAO on contract workloads, plus they accomplish direct surveillance of the production processes and ensure all contractual requirements are met.

5.2.3.3. Customer workload requirements are communicated, authorized and funded through the assigned SPD, Product Group Manager (PGM) or Commodities Single Manager (SM). Feedback from the customer on aircraft, missiles or commodities produced by the product directorates is as previously stated in paragraph 4.2 of this manual.

5.3. Design and Development. Limited design/engineering authority, activity takes place at OO-ALC. Therefore Design and Development is excluded from this manual. That which does occur is primarily of two types:

5.3.1. Contractors. The first type is performed by contractors. Guidelines are provided in DODD 5000.1, *Defense Acquisition*. The Department of Defense (DOD) provides the Defense Acquisition Deskbook (DAD) to sort through the guidelines and directives. The Air Force provides guidance and direction in AFPD 63-1, *Acquisition System,* and AFI 63-101*, Acquisition System*. Engineering data is acquired according to AFI 21-402, *Engineering Drawing System.*

5.3.2. Organic. The second type of design occurs organically. Engineering changes to Air Force drawings are accomplished according to AFI 21-402, *Engineering Drawing System.* Engineering data is managed according to AFI 21-401*, Engineering Data Storage, Distribution, and Control*. Any organization performing design activities will maintain internal procedures for controlling and verifying design requirements, design changes and compliance with the above mentioned publications.

5.3.3. Configuration Control. During depot maintenance, configuration control is maintained through strict adherence to maintenance instructions and tolerances provided in the applicable technical data. Configuration control of nonconforming product is detailed in paragraph 7.5.of this manual.

5.3.4. Organic First Articles. AFMCI 64-110, *First Article Management*, prescribes how organic first article and prototyping are to be accomplished. Designated engineering authority directs (or deems not required) First Article requirements. Whenever the responsible engineering authority does not levy these requirements, quality verification requirements as described in this manual apply.

5.3.5. Engineering Systems. AFMCMAN 21-1, *Air Force Material Command Technical Order System Procedures*, provides details on how engineering systems and dispositions are requested from the product directorates.

5.4. Purchasing.

5.4.1. General. Parts and materials used in depot maintenance activities at OO-ALC are purchased through the Federal Supply System (FSS). Various government agencies such as General Services Administration (GSA), Defense Logistics Agency (DLA), other service branches and other Air Force entities are assigned management responsibility for specific items. These items are purchased from manufacturers and suppliers by the responsible activity, and they in turn, supply them to OO-ALC.

5.4.2. Purchasing Requests. Several directorates, including OO-ALC/PK, share responsibility for processing Purchase Requests when purchasing material and parts. Procedures for authority, initiation, control, developing and processing of Purchase Requests (PR) and Military Interdepartmental Purchase Requests (MIPR) are contained in the *Federal Acquisition Regulations (FAR) and Supplements*, AFMCI 23-102, *Purchase Requests*, and AFMCPD 23-1, *Sustainment Material Acquisition Policy*.

5.4.2.1. Organizations precisely describe the requirement in the purchase request using an item description for supplies, a work performance statement for services, or specifications and drawings for construction.

5.4.2.2. Organizations also provide: The date the requirement is needed, a suggested source for the requirement, the approved fund citation and the justifications for urgency or for sole source acquisition.

5.4.3. Local Purchase Procedures. OO-ALC Organizations requiring local purchase support, due to the non-availability of the item through FSS, submit purchase requests to the Operational Contracting Division to initiate the contracting process. Customers submit either an AF Form 9, Request for Purchase, to be completed in accordance with local procedures in (ABSS); a DD Form 1348-1A, Issue Release/Receipt Document; or other documents that Operational Contracting accepts as purchase requests.

5.4.4. Depot Maintenance Contractors. Contractors are selected using procedures in *FAR and supplements* and AFMCI 21-113, *Contract Maintenance Programs for Depot Maintenance Business Area (DMBA)*. Depot On-sight Contractor Augmentee Teams (DOCATS) working within the product directorates to supplement manning/skill shortages are PAC certified to perform selected tasks. The first-level supervisor for the dock/crew/shop assigned, provides quality oversight of these individuals. Contractor personnel are subject to quality assurance surveillance and evaluations as specified in their contract.

5.4.5. Evaluation of Supplier. The activity responsible for the item in the FSS is also responsible for selecting the supplier. Evaluation and selection of acceptable and approved suppliers is conducted in accordance with the *Federal Acquisition Regulation (FAR) and Supplements,* and according to the solicitation provisions.

5.4.6. Verification of Purchased Product.

5.4.6.1. Parts and materials used in support of workloads at OO-ALC may be procured from private contractors and may be inspected and accepted on behalf of the U.S. Government by QA representatives assigned to DCMA as specified in the contract.

5.4.6.2. Parts and materials destined for OO-ALC workloads are received at OO-ALC by Product Receipt & Evaluation Division (DDHU/E Hill) in Building 849.

5.4.6.3. OO-ALC also maintains a Conformance Verification Program (CVP) to supplement other methods of verifying purchased products. Monthly samples (both random and selective) of incoming parts are selected, inspected, and/or tested to determine conformance to contract specifications. CVP evaluates only parts managed and procured by OO-ALC and is restricted to parts without proprietary data.

5.4.6.4. Once parts and materials are received in the product directorates, they are visually inspected prior to installation on an end item. They are also subjected to form, fit, and function verification during installation and operational testing after installation according to applicable technical data.

5.4.6.5 Parts and materials that are found defective are reported according to TO 00-35D-54, *USAF Material Deficiency Reporting and Investigating System* . Shipping damage is reported in accordance with AFJMAN 23-215, *Reporting of Supply Discrepancies.*

5.5. Production Provisions. The policies, programs, directives, technical data, and methods establishing process-control within OO-ALC are described in detail in this manual. Workmanship standards and product technical requirements for all tasks and operations performed within OO-ALC by PAC qualified employees are contained in applicable technical data. The technical data sources provide the requirements and specifications that are used to accept or reject the quality and workmanship of each task or operation performed.

5.5.1. Center Quality Management System. The adaptation of the Center Quality Management System elements articulated throughout this manual establishes, or supports the control of the Center production processes. Some of the methods used to establish process control are described below.

5.5.2. Technical Data. Mandatory step-by-step maintenance instructions for the repair, overhaul, modification, and servicing for all depot products is provided by technical data. The compliance to technical data not only assures product conformance, it ensures configuration control is maintained.

5.5.3. Documentation. WCDs are used in the product directorates to provide documentation for work control, identification, PAC inspection codes, routing of items, quality verification inspection requirements, and a record of the work and inspections accomplished. Instructions for the preparation, coordination, change, and control of WCDs are provided in AFMCI 21-110.

5.5.4. Preparation. WCDs are prepared, coordinated, approved, and controlled in the product directorates by the Production/Engineering Planning functions. WCDs are an extraction and documentation of the sequenced steps, which outlines the processing of an item, and certifies work completions.

5.5.5. Planning. The MDS/Project Workload Planning System (G037E), Programmed Depot Maintenance Scheduling System (PDMSS) (GO97), and the Inventory Tracking System (ITS)(G337) are computerized maintenance systems used by the Shop Service Center (SSC) or Weapons System Service Center (WSSC) to plan, schedule, and control the modification and repair of aircraft and other type workloads.

5.5.6. Precision Measurement Equipment (PME). PME used in the various processes performed within the product directorates are calibrated and controlled. See Section 6.6. of this manual.

5.5.7. PAC. The PAC Program ensures that technicians performing processes are qualified and certified to perform tasks according to AFMCI 21-108.

5.5.8. Equipment Systems. Equipment/systems embedded in the production facilities – These support equipment/systems are permanently installed in the production areas and provide such things as environmental control, hydraulic power, avionics cooling air, fuel system refuel/defuel/purge, environmental control for painting, and bead blasting, etc. The proper upkeep and preventative maintenance of these systems is critical. Either organic or contractor resources are responsible to properly maintain these systems. For specific responsibilities, refer to the product directorate's QAPs or supporting OIs.

5.5.9. Aerospace Ground Equipment (AGE). Powered and non-powered aircraft ground support equipment – As with the embedded support systems, the improper care and preventative maintenance of powered and non-powered AGE would have an adverse effect on product quality. A private contractor maintains all AGE at this Center in accordance with contract, technical data, and other applicable Air Force directive's requirements.

5.5.10. Standards. Workmanship standards and product technical requirements for all tasks and operations performed within OO-ALC by PAC qualified employees are contained in the applicable technical data. The technical data sources provide the requirement and specifications that are used to accept or reject the quality and workmanship of each task or operation performed.

5.6. Service Provisions. Servicing or service-after-delivery refers to the process available to customers should product/service deficiencies or failures occur. OO-ALC organizations are committed to promoting trust and confidence in their products/services and in satisfying customer requirements. The formal approach and innovative techniques to foster open communication and ensure our external customers receive prompt and efficient after-delivery service are: Deficiency Reports (DR); dedicated customer relations activities such as user conferences and weapon systems forums; center-wide assistance service to customers Organizational and Intermediate (O&I) level tasks, which are beyond the maintaining command's capability to accomplish; un-programmed depot-level maintenance and after delivery service instructions and information. Note: For further details, see the DR process in Chapter 7.

5.6.1. TO 00-25-107 Assistance. OO-ALC provides maintenance assistance (service) to customers as part of the Depot Maintenance Assistance Program (TO 00-25-107, *Maintenance Assistance*). Listed below are the different types of services provided:

5.6.1.2. Organizational and Intermediate (O&I) Level. O&I level tasks that are beyond the maintaining commands capability to accomplish.

5.6.1.3. Un-programmed Depot Level Maintenance. Maintenance actions not forecasted, such as catastrophic damage, or abnormal wear and tear of an aircraft or its equipment.

5.6.1.4. After-delivery, service instructions/information associated with product assembly and installation, TOs, and illustrated parts lists are provided to the users according to TO 00-5-1.

5.7. Validation of Processes for Production and Service Provisions. For validation of processes for production, refer to Chapter 6.

5.8. Product Identification and Traceability. The identification of all products, in-process components, and raw materials is maintained throughout the repair process through the use of storage location, tags/labels, condition tags, routers, AFTO series forms/records, and WCDs. These items are used to keep track of each serialized and non-serialized asset and report the final configuration of the repaired item. The work instructions clearly document each step of the process and record the identification of components and materials used where trace-ability is a specified requirement. Refer to the product directorate QAPs or supporting OIs for specific workload requirements.

5.9. Customer Property.

5.9.1. Control of Customer-Supplied Product.

5.9.2. Customer-Supplied Products. These products for workloads can consist of parts/components, materials, or modification kits supplied from another service or customer on a contract or DMISA workload. If these items are required by the workload/contract agreement to be segregated from Air Force stock, procedures will be developed/revised (as necessary) to ensure the specified requirements are met.

5.9.3. OO-ALC Customers. These customers may provide products on designated workloads such as field-level Time Compliance Technical Order (TCTO) kits to be installed during depot maintenance. This type of requirement could be part of the workload agreement or requested by the individual units using AFTO Form 103, Aircraft / Missile Condition Data. The procedures defining these requirements are outlined in appropriate product directorate QAPs or supporting OIs.

5.9.4. Purpose of Contract Workloads. For the purpose of contract workloads, workload components are considered customer-supplied products. They will be safeguarded from damage, loss, or deterioration. Nonconformities discovered during the maintenance process, or those organically caused, will be processed per this manual's paragraph 6.5.2. Any loss of contract workload components meeting the criteria specified in AFMAN 23-220, *Reports of Survey for AF Property*, will be processed accordingly. The DCMA is the customer's representative and is notified of all loss or damage through the Maintenance Work Request (MWR) process.

5.10. Preservation of Product.

5.10.1. Product Directorates. The product directorates will establish and maintain documented procedures for handling, storage, packaging, preservation, and delivery of products while under directorate control. The handling of materials requires proper planning, control, foreign object damage (FOD) protection, Electrostatic Discharge (ESD) prevention, component identification, and a documented system for incoming materials, materials in process, and finished products. Material handling extends to the delivery of the product and to the time the item is put into use. Although these are primarily DLA functions at OO-ALC, the respective product directorates are responsible for their portion of the process; i.e., while materials and products are stored or worked on within their directorates. The method of handling and storage should provide for proper and adequate equipment, materials, and facilities to prevent damage as a result of conditions such as vibration, shock, abrasion, corrosion, temperature, or any other related adverse factors. Appropriate storage containers and areas should be designated to prevent damage or deterioration to the product pending use or delivery. Receipt and dispatch from such areas should be stipulated and items in storage should be checked periodically for possible

deterioration and damage. Labeling and marking of items should be legible, durable, and in accordance with the required specifications.

5.10.2. Procedures. Procedures for special handling are contained in AFMCI 24-201, *AFMC Packaging and Materials Handling*. This includes the use of crates, boxes, containers, transportation vehicles, and other facilities of material handling.

5.10.3. Electronic Equipment. Electronic equipment and ESD sensitive items are handled according to TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment*; hazardous material according to AFJI 24-210, *Packaging of Hazardous Material*; explosive material according to AFMAN 91-201*, Explosives Safety Standards*; and shelf-life items according to AFMAN 23-110, Volume 7 Part 3*, The Air Force Shelf Life Program.*

5.10.4. Corrosion/Oxidation. Items that are subject to corrosion, oxidation, or deterioration are cleansed and preserved to ensure maximum life cycle function. Condition of the product is assessed at appropriate intervals.

5.10.5. Shelf-Life Material/Items. Until time of issue, Supply (OO-ALC/LGS) personnel and the DLA are responsible to comply with all the requirements of TO 00-20K-1, *Shelf-life Material*. Once issued to production personnel, they assume that responsibility. All personnel receiving/using shelf life material/items will comply with the applicable requirements of TO 00-20K-1.

5.11. Control of Inspection, Measuring and Test Equipment – General.

5.11.1. Precision Measurement Equipment Laboratory (PMEL). The PMEL Division, Precision Measurement Division (OO-ALC/LEL) performs repair and calibration of Test, Measurement, and Diagnostic Equipment (TMDE) used at Hill AFB and by customers worldwide. TMDE comprises the precision tools and test equipment used to measure, calibrate, gauge, test, inspect, diagnose, or otherwise examine material, supplies, and equipment to ensure compliance with specifications established in engineering drawings, TO requirements, military standards, or other specifications.

5.11.2. Control Procedures.

5.11.2.1. The PMEL at OO-ALC is certified as a Type IIA PMEL. This certification ensures that measurement standards and processes for the repair and calibration of TMDE meet the requirements of the Air Force Metrology and Calibration Program (AFMETCALP), and are traceable to the National Institute of Standards and Technology (NIST). Inspection/verification of laboratory processes, records, and quality program are subject to review by AFMETCAL and other government agencies through on-site inspections at scheduled or unscheduled intervals.

Employees assigned to the PMEL lab are required to conform to PAC procedures for certification as outlined in AFMCI 21-108.

5.11.2.2. To ensure the integrity of AFMETCALP and measurement trace-ability to NIST, QAS's for the organic PMEL and Quality Assurance Evaluator (QAE) for the contract PMEL are assigned to and oversee quality functions performed by the PMEL. All working standards, which are used for calibration or baseline measurement and control, are quality verified through random sample process reviews of equipment prior to release for use. QASs and QAEs perform actual hands-on verifications to ensure compliance with procedures, and proper documentation. Certified test, measurement, and diagnostic equipment (TMDE) are labeled with an appropriate validation sticker or tag. This system provides verifiable TMDE accuracy for equipment owners.

5.11.2.3. Direction for PMEL quality process evaluation is detailed in TO 00-20-14, *Air Force Metrology and Calibration Program*. The calibration and certification of measuring and test equipment is controlled according to AFI 21-113*, Air Force Metrology and Calibration (AFMETCAL) Program*; PMEL Customer Inventory System (PCIS) Users Manual; or equivalent commercial standards. The Facility and Equipment Maintenance System (FEMS) maintains a centralized inventory record of all PME/TMDE requiring periodic calibration and certification. Precedence for TMDE Calibration and certification procedures is outlined in TO 00-20-14, *Air Force Metrology and Calibration Program*.

5.11.2.4. It is the responsibility of the product directorate's production tool cribs to ensure that only tools/equipment with current calibrations and no visible deficiencies are issued. It is also the responsibility of the user to ensure that tools/equipment are serviceable and calibrations are current before each use. If an incident occurs (such as dropping) that could void the calibration, the user is responsible to identify the problem to the PME monitors, so that it can be routed to PMEL.

Chapter 6

MEASUREMENT, ANALYSIS AND IMPROVEMENT

6.1. Measurement and Monitoring of System Performance. Measurement data are important for making fact-based decisions. Top management shall ensure effective and efficient measurement, collection and validation of data to ensure the organization's performance and the satisfaction of interested parties. This shall include review of the validity and purpose of measurements and the intended use of data to ensure added value to the organization. Examples of measurement of performance of the organization's processes include: measurement and evaluation of its products, capability or processes, achievement of project objectives, and satisfaction of customer and other interested parties. Directorates shall continually monitor their performance improvement actions and record their implementation, as this can provide data for future improvements. The results of the analysis of data from improvement activities shall be one of the inputs to management review in order to provide information for improving the performance of the organization.

6.1.1. Metrics. Product directorates must, as a minimum, develop QA metrics as mandated in AFMCI 21-132, Attachment 1. Product directorates will establish and document policies and procedures in the QAP or supporting OI for QA metric selection, monthly review forum, and analysis requirements. Product directorates shall provide these metrics to OO-ALC/LGQ by the 15th of the following month.

6.1.2. QA Metrics. OO-ALC/LGQ will brief QA metrics quarterly, during the OO-ALC QMB meeting. The purpose of the briefing is to keep Center senior-level managers informed of the health and well being of QA programs, cross-feed information to all product directorates, review and evaluate program performance, and develop program improvements.

6.2. Customer Satisfaction. The following describes those methods that OO-ALC employs to provide our customers with the greatest satisfaction possible. Senior leadership shall ensure that effective and efficient methods are used to identify areas for improvement of the quality management system performance. Examples of methods include but are not limited to the following:

6.2.1. Deficiency Reports. The reporting systems governing the processing and management of defects are documented in *T*O 00-35D-54. This TO interacts with DO86 Web Site, Logistics/Maintenance Engineering Management Assignments, AFMCI 21-110, AFMCI 21-130, AFI 99-101, *Developmental Test and Evaluation,* and AFI 99-102*, Operational Test and Evaluation*. These directives contain the guidelines by which the customer is able to initiate service after sales, i.e., report problems, receive replacement assets or have the item repaired at

no cost, and/or receive an explanation on what was done to correct and prevent the recurrence of the problem. Deficiency Reporting (DR) - When defective products are discovered, either internally or by an end user, the DR system is used to report, investigate, and resolve the deficiency according to TO 00-35D-54. The DR program is supported by a worldwide AF database (G021) that provides access to data on defects and resolution efforts. It also facilitates analysis of quality problems and preparation of management indicators. Customer DRs are included in the metrics and analysis requirements of AFMCI 21-132.

6.2.2. Dedicated Customer Relations Activities. Frequent communication with customers is essential for monitoring good quality and providing service after sales. OO-ALC has established dedicated positions for major workloads for this purpose, e.g. OO-ALC/LA for aircraft modification and maintenance and OO-ALC/LM for missile maintenance. The functions of these positions are to research and resolve customer-related product defects, participate in site visits, receive first-hand concerns via telephone, and maintain telecommunications with units throughout their initial inspection of delivered products. In addition to these specific functions, any individual dealing with customers as part of their normal activities, e.g., the fixers, material planners, inventory managers, equipment specialists, quality specialists, etc., are also responsible for providing necessary technical support and resolving customer concerns and issues.

6.2.3. Customer Concerns. Other opportunities for customers to voice their concerns and identify future requirements to enhance existing products/services include conferences, periodic surveys, reviews, integrated product teams, Depot Repair Enhancement Process (DREP) and Depot Maintenance Management for Aircraft Repair (DMMAR) teams, and other forums. Examples of these forums and customer interface meetings are the Annual Software Technology Conference, weapon systems program directors worldwide and in-country reviews, technical coordination groups, and Product Improvement Working Groups. The latter is conducted according to AFI 21-118, *Improving Aerospace Equipment Reliability and Maintainability.*

6.3. Measurement and Monitoring of Product.

6.3.1. Inspection Program. The inspection program employed by industrial processes throughout OO-ALC is designed to ensure quality is built into the product. Maintenance personnel certified under the PAC program perform inspections and tests of products. Only employees who have successfully completed all training and certification requirements mandated by HQ AFMC are allowed to certify product conformance. The PAC program not only requires each certified employee to inspect and certify their own work, but also requires an additional PAC certified employee to re-inspect and certify selected tasks identified by a production planning team as requiring secondary PAC certification. The types of inspections utilized during the various phases of production are described in the following paragraphs.

6.3.1.1. Examination and Inventory (E&I). E&I inspectors are PAC certified technicians assigned to assess the incoming condition of products to determine incoming condition, project

related and unpredictable/over and above (O&A) work requirements. The E&I inspection requirements are developed to satisfy specific workload requirements.

6.3.1.2. In-Process Inspection. During the in-process phase of production, all inspections and tests required by applicable TOs and/or work packages are performed according to WCDs as per paragraph 4.9. of this manual. The WCDs provide the criteria for determining the acceptability of the product. As each task is completed, the PAC/SSQ (Special Skills Qualification) certified mechanic verifies conformance to all technical requirements. Those items identified on the WCD as having critical characteristics/safety of flight require a second PAC certification (secondary PAC). PAC program procedures, certification, inspection codes, and other program requirements are outlined in AFMCI 21-108 and AFMCI 21-110.

6.3.1.3. Closeout (Operational/Visual). Operational tests to verify the proper operation and integrity of the systems or components are performed on all systems modified, repaired, or disturbed. Areas are also re-inspected against technical and WCD requirements as the areas are closed out (completed). These requirements are driven by the WCDs and are performed to technical data specifications. WCDs are part of the Production Planning Team process.

6.3.1.4. Post-Production. Post-production inspections are performed to verify technical compliance, workmanship, overall product quality, and to identify opportunities for process improvement. Details of this assessment program are detailed in product directorate QAPs and supporting OIs.

6.3.1.5. Management Directed. OO-ALC Directorate, Division, and Fixer Chiefs periodically direct special inspections as an interim measure in reaction to customer feedback or other indicators of a quality/reliability problem. The inspection requirements are documented on WCDs and/or the aircraft AFTO 781 *series forms*.

6.3.1.6. Customer, Command, Numbered Air Force, or System Program Director (SPD) one-time inspections. Immediate or urgent action inspections are performed on affected aircraft, as directed/requested. The issuing authority provides inspection requirements. The workload supportability sections accomplish all required planning functions and translate the inspection requirements into WCDs.

6.3.1.7. Receiving. Parts and materials are visually inspected and operationally checked (as required by technical data) for the proper form, fit, and function by PAC-certified mechanics at the time of use. Outgoing Discrepancy Reports are processed per TO 00-35D-54 for any deficiencies discovered. Shipping damage is reported per AFJMAN 23-215.

6.3.1.8. Final Inspection and Testing. Final inspection and functional testing of end items are performed according to WCDs based on requirements contained in applicable TOs. In addition

to any physical inspection and testing required, the production, scheduling, and planning functions within the respective product directorates will convene a Maintenance Review Team (MRT). The MRT verifies that all requirements of the work package (planned and unplanned) have been completed, as negotiated, prior to release of the end item.

6.3.1.9. Quality Verification Inspections (QVI). A QVI is the technique that is used to assess and evaluate the health and well being of core production processes and products produced by OO-ALC. A group of core production QVI candidates are identified, based on the Production Planning Team process, new workload requirements, customer reported defect information, or by recommendations of product directorate's management. The core QVI list of candidates will be reviewed and updated at least annually in conjunction with the annual review of the product directorate QAP or supporting OI.

6.3.1.9.1. Product directorates will establish and document procedures in their QAP or supporting OI for QVI selection, processing, QAS or augmentee quality inspection code "Q" clearance, corrective/preventative action, review, Quality Assessment Rating (QAR) criteria, follow-up, and the minimum standard for the number and frequency (monthly, quarterly, etc.) of QVI's to be performed.

6.4. Measurement and Monitoring of Processes.

6.4.1. Responsibilities. The product directorate quality organizations accomplish internal surveillance, evaluations, and Requests for Quality Assistance (RQA) in accordance with AFMCI 21-115, this manual, and the product directorate quality plans or supporting OIs.

6.4.2. Annual MSEP/UCI Reviews. Annual MSEP and UCI Reviews (including self-inspection) are also conducted at the Center-level. An overview of these programs has also been previously documented in this manual.

6.4.3. Annual PAC Review. An annual PAC and Training Program review is conducted by the Center PAC and Training Working Group in accordance with AFMCI 21-108. This review must include: determining adequacy of local directives, sampling of training and PAC records in all production organizations, cross-checking certification actions on WCDs against the employees certification records, sampling of SSQ training requirements, qualifications, and documentation procedures, and analyzing training and PAC metrics to determine trends for process improvement.

6.4.4. Core and Other Inspections. Core Inspections (CIs) are maintenance disciplines common to all AFMC Depot Maintenance operations that AFMCI 21-115 mandates continuous evaluation for compliance to established Air Force, AFMC, Environmental Protection Act (EPA), and local publication requirements. Other inspections are those not listed in AFMCI 21-115 that are

directed by product directorate's management and must be identified in product directorate QAPs.

6.4.4.1. Product directorates will establish and document procedures in their QAP or supporting OI for Core Inspection selection, processing, corrective/preventative action, review, QAR criteria, and follow-up, and the minimum standard for the number and frequency (monthly, quarterly, etc.) of CI's to be performed.

6.4.4.2. Task evaluations. Task Evaluations (TE) will be performed annually on each PAC certified person within OO-ALC in accordance with AFMCI 21-115. TEs assess the effectiveness of the PAC and the Special Skills Qualification (SSQ) Program. The TEs will determine worker knowledge and competence, ability to interpret and comply with technical data and WCD instructions, ability to demonstrate knowledge and compliance with other maintenance and safety disciplines associated with their position. Certification and training of employees will also be verified.

6.4.4.2.1. Product directorates will establish and document procedures in the QAP or supporting OI for Task Evaluation scheduling, accomplishment, QAR, pass/fail criteria, and corrective/preventative action(s), and the number and frequency (monthly, quarterly, etc.) of TEs to be performed.

6.4.4.2.1.1. Isolated violations. An observed event or condition with safety implications or technical violations not related to a planned inspection/assessment that may be considered unsafe, not in accordance with established procedures, and/or unfit to operate. An isolated violation consists of any condition (process or product) not in compliance with established standards and will be corrected immediately.

6.4.5. The Quality Information Management Standard System (QIMSS). QIMSS will be used to store data accumulated during the above assessments. However, as of the date of this publication, QIMSS program development is not complete. In the interim, product directorates should use some other existing or internally developed database program.

6.4.5.1. Procedures and Routing of AFMC Form 343, Quality Assurance Assessment. The AFMC Form 343 will be used by the product directorates to document all QVI, CI, TE, and Isolated Violations in accordance with AFMCI 21-115. Product directorates will establish and document procedures in their QAP or supporting OI for form routing, processing, corrective/preventative action, review, and follow-up.

6.4.6. Quality Assurance Specialist (QAS) Augmentee Duties and Limitations.

6.4.6.1. A group of trained quality augmentees may be maintained by product directorate's quality organizations in order to comply with requirements of this manual, meet special tasking and project requirements, and prevent production delays or work stoppage caused by lack of QAS support. Augmentees will be selected from within the product directorate work force. Workload and/or other special tasking and/or requirements will determine the number of augmentees and required skills. Product directorates will establish and document the authority and limitations of augmentees in their QAP or supporting OI.

6.4.7. Inspection and Test Status.

6.4.7.1. The method within the product directorates for indicating that products produced have been inspected/tested and accepted, or have not yet been inspected, is accomplished through the use of WCDs, or on some products, the use of AFTO series forms according to the 00-20-series TOs. When the WCD inspection code for an item is stamped by a PAC qualified/certified employee, or two certified employees when the inspection codes requires a second certification, the item has been inspected and accepted.

When a WCD has not been stamped off, it indicates the item has yet to be inspected or accepted. Tasks or operations designated for QVIs will require the "Q" code be certified by a QAS.

6.4.7.2. Refer to the applicable product directorate and/or division work-specific quality plans for details of inspection and test status of products produced.

6.5. Control of Nonconforming Product.

6.5.1. Defective Parts. Defective parts received through the AF Supply System are reported and identified according to TO 00-35D-54 and AFMCI 21-130. Shipping damage is reported IAW AFJMAN 23-215. Defective parts received through the US Navy Supply System are reported according to OPNAVINST 4790.2E, *Naval Aviation Maintenance.*

6.5.2. Nonconformities caused by maintenance actions that can be reworked to technical specifications will be accomplished in accordance with AFMCI 21-110. The WCD generated for the nonconformity maintains the required identity and control of the rework until its completion. Rework will be documented in accordance with the procedures detailed in AFMCI 21-110.

6.5.2.1. Nonconformities caused by maintenance actions that cannot be reworked to technical specifications will require engineering disposition. AFMC Form 202, **Nonconforming Technical Assistance Request & Reply**, will be submitted and processed IAW to AFMCMAN 21-1. The WCD and AFMC Form 202 generated for the nonconformity maintains the required identity and control of the rework until its completion.

6.5.2.2 All unpredictable and O&A nonconformities discovered during the performance or workload requirements will be accomplished IAW AFMCI 21-110. The WCD maintains control of the nonconformity until it is corrected.

6.6. Analysis of Data and Statistical Techniques.

6.6.1. OO-ALC has established indicators for measuring the health and well being of key programs and processes. These Quality Performance Indicators (QPIs) / metrics measure performance associated with cost, quality, schedule, and customer support for products and services provided by this Center. QPIs are used at all levels within the directorates to manage their operations and help improve processes. The QPIs align to our Center and AFMC goals and objectives as outlined in the OO-ALC Strategic Plan. QPIs are developed according to AFMC Pamphlet 90-102*, Metrics Handbook* and the product directorate's quality plans or supporting OIs and are reviewed monthly within the product directorates, quarterly at Center-level, and annually by AFMC/LGP.

6.6.2. Minimum Metrics. As a minimum, the QA metrics generated by the product directorates will be those mandated in AFMCI 21-132, Attachment 1. Each product directorate will review the applicable metrics monthly. The forum for this review, required metrics, and analysis requirements will be documented in the product directorate's QAP or supporting OI.

6.6.3. Product Directorate QA Metrics. The product directorate QA metrics will be compiled into Center totals by OO-ALC/LGQ and reviewed quarterly during the OO-ALC QMB. The purpose of these quarterly briefings are to keep Center senior-level managers informed of the health and well being of the QA program, cross-feed information to all product directorates, evaluate program performance, and make program improvements.

6.6.4. Statistical Process. Statistical process control and other statistical analysis techniques are employed, as needed, in areas where critical industrial special processes and modification are accomplished. Where appropriate, guidance for the application of statistical techniques will be documented in product directorate's workload specific quality plans or supporting OIs.

6.6.5. Economics of Quality. The identification and resolution of costly and inefficient maintenance operations is accomplished by following the minimum data collection requirements for cost of labor and material for rework, scrap, and spoilage contained in AFMCI 21-110. Quality cost data will be maintained and used, as appropriate, as a management metric of the quality program to identify the cost of both the correction and prevention of nonconforming items. Procedures for collecting and analyzing this data will be documented in product directorate's workload specific quality plans or supporting OIs.

6.7. Improvement.

6.7.1. Corrective and Preventative Actions. All levels of OO-ALC management recognize the importance of sound corrective/preventative actions to improve the processes and eliminate the root cause of quality deficiencies. All levels of management are responsible to initiate positive corrective/preventative actions in their functional areas of responsibility and to follow up those actions to ensure the desired results are achieved. The following is a synopsis of the programs and assessment indicators that generate corrective/preventative actions within OO-ALC:

6.7.1.1. The monthly product directorate management reviews and briefings roll up the cost, schedule, and quality indicators to the macro level. These internal reviews of QPIs give senior managers insight into areas needing corrective/preventative action.

6.7.1.2. QPIs for the major processes in the directorates give visible evidence of those processes requiring corrective/preventative action. Follow-up, to ascertain if the desired results have been achieved, is readily apparent by monitoring the QPI that identified the problem or by performing process surveillance or evaluations as detailed in this manual.

6.7.1.3. Requests for Quality Assistance (RQA). RQAs are initiated by submitting an AFMC Form 77, *Request for Quality Assistance*, to the product directorate's quality organization. RQAs are used to evaluate areas of concern; (e.g., problems that impact product quality, deficiencies in products or processes, faulty material, etc.). RQAs are performed to gather information that may lead to problem solving and process improvement. RQAs will not be performed on subjects covered by the Master Labor Agreement.

6.7.1.4. Customer Feedback from Deficiency Reports (DR), and AFMC Form 79*, Quality Feedback Review*. Product directorates will establish and document customer feedback activities in their QAP or supporting OI.

6.7.1.5. Quality surveillance and evaluations conducted/chaired by OO-ALC/LGQ are autonomous reviews of production processes. The program, procedures, and corrective and preventive requirements are detailed in this manual.

6.7.1.6. Corrective/preventative actions regarding PAC-certified mechanics, including de-certification/re-certification actions, as defined in AFMCI 21-108.

6.7.1.7. Corrective/preventative actions for nonconformities are described in this manual.

6.7.2. Corrective Action Requests (CARS).

6.7.2.1. Corrective Action Requests may be issued by on-site Defense Contract Management Agency (DCMA) quality inspectors, using DD Form 1232*,* **Quality Assurance Representative**

Correspondence. CARs may be issued to document aircraft and commodity contractual product or process noncompliance issues found through product audits, process evaluations, or other inspections. The level of corrective action requested is based on the severity of noncompliance and process risk. Level one and Level two CARs are the most common; however, Level three and Level four CARs may be issued to contractor management for noncompliance issues of a more serious nature. Level one CARS may be issued in either verbal or written form for minor discrepancies. Level two CARs may be issued for contractual noncompliance issues that are systemic in nature, and could adversely affect cost, schedule, or performance if not corrected. Level one verbal CARs are generally corrected and closed on the spot and do not require a written response. Level one written and Level two written CARs require a response in writing within 20 calendar days of issue. Responses to a CAR must generally address the following: correct the defect (always required); screen the product for defects; determine the special or common cause of the defect and eliminate the cause; take action to prevent similar defects until corrective action is in place; and determine if the corrective action was effective.

6.7.2.2. Product directorates will establish and document procedures and responsibilities in their QAP or supporting OI for processing CARs. Product directorates will establish a Point Of Contact (POC) for CARs and provide name/office symbol to OO-ALC/LGQ.

6.7.2.3. OO-ALC/LGQ will act as the Center POC for all CARs issued by DCMA. CARs will be suspensed to the appropriate organization for corrective and preventative action; however, the Contract Steady State Branch will be responsible for CARs requiring a center-level response. The suspense assigned will be two working days less than DCMA's suspense of 20 calendar days. The suspensed organization will forward the CAR response back to OO-ALC/LGQ by the suspense date or request an extension through OO-ALC/LGQ. If the requested suspense date exceeds DCMA's suspense, OO-ALC/LGQ will contact DCMA for an extension request.

6.7.2.4. OO-ALC/LGQ will track all CARs and their suspense dates, review completed CARs for adequate corrective and preventative actions, ensure all deficiencies on the CAR have been addressed, completed, and forward responses to DCMA. Any problems will be resolved with the appropriate level of management. The total number of CARs received in the last 12-months, those closed since the last QMB, and all open CARs will be briefed at the QMB as directed.

6.7.2.5. Follow-up on CAR corrective and preventative actions will be at the discretion of the QMB.

GENE L. HATHENBRUCK, Director
Logistics Management Directorate

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-113, *Air Force Metrology and Calibration (AFMETCAL) Program*
AFI 21-118, *Improving Aerospace Equipment Reliability and Maintainability*
AFI 21-133, *Joint Maintenance Depot Program*
AFI 21-401, *Engineering Data Storage, Distribution, and Control*
AFI 21-402, *Engineering Drawing System*
AFI 33-360, Volume 1, *Publications Management Program*
AFI 37-138, *Records Disposition – Procedures and Responsibilities*
AFI 63-101, *Acquisition System*
AFI 99-101, *Developmental Test and Evaluation*
AFI 99-102, Operational Test and Evaluation
AFJI 24-210, Packaging of Hazardous Material
AFJMAN 23-215, *Reporting of Supply Discrepancies*
AFMAN 10-401, *Operation Plan and Concept Plan Development and Implementation*
AFMAN 23-110, Volume 7, Part 3, *The Air Force Shelf Life Program*
AFMAN 23-220, *Reports of Survey for AF Property*
AFMAN 37-139*, Records Disposition Schedule*
AFMAN 91-201, *Explosives Safety Standards*
AFMCI 21-101, *Depot Maintenance Activation Planning*
AFMCI 21-108, *Maintenance Training and Production Acceptance Certification* and Hill Supplement 1
AFMCI 21-110, *Depot Maintenance Technical Data and Work Control Documents* and Hill Supplement 1
AFMCI 21-113, *Contract Maintenance Programs for Depot Maintenance Business Area (DMBA)*
AFMCI 21-115, *Depot Maintenance Quality Assurance (QA)*
AFMCI 21-130, *Equipment Maintenance Material Control*
AFMCI 21-132, *Depot Maintenance Technical Compliance Review Procedures*
AFMCI 21-301, *Air Force Material Command Technical Order System Implementing Policies*
AFMCI 23-102, *Purchase Request (PR) Operations*
AFMCI 24-201, *AFMC Packaging and Materials Handling Policies and Procedures*
AFMCI 36-201, *Education and Training Process Guide*
AFMCI 63-501, *Air Force Material Command Quality Assurance*
AFMCI 64-110, *First Article Management*
AFMCI 90-202, *Commend Level Inspector General Activities*

AFMCMAN 21-1, *Air Force Materiel Command Technical Order System Procedures*
AFMCPD 23-1, *Sustainment Materiel Acquisition Policy*
AFPD 63-1, *Acquisition System*
AFR 40-410, *Employee Training and Development*
DODD 5000.1, *Defense Acquisition*
Hill AFB Instruction 21-301, *Technical Order System*
ISO 9001*, International Standard for Quality Assurance*
TO 00-5-1, *AF Technical Order System*
TO 00-5-2, *Technical Order Distribution System*
TO 00-20-234, *General Shop Practice Requirements for Electrical Equipment*
TO 00-20K-1, *Shelf-life Material*
TO 00-25-107, *Maintenance Assistance*
TO 00-35D-54, *USAF Materiel Deficiency Reporting and Investigating System*

Acronyms

75 CS/SCSP	Publishing Management
75 MSS/DPEE	Education Services and Military Training
75 MSS/DPEO	Employee Development and Operations
649 CLSS	Combat Logistics Support Squadron
649 MUNS	649 Munitions Squadron
651 MUNS	649 Munitions Squadron
ACO	Administrative Contracting Officer
AGE	Aerospace Ground Equipment
AFGE	American Federation of Government Employees (Union)
AFMC	Air Force Materiel Command
AFMCI	Air Force Material Command Instruction
AFMETCALP	Air Force Metrology and Calibration Program
AFRES	Air Force Reserve
AFTO	Air Force Technical Order
ALC	Air Logistics Center
AMARC	Aerospace Maintenance and Regeneration Center
ANG	Air National Guard
C3I	Command, Control, Communication, Intelligence Systems
CAG	Commander's Action Group
CAMS	Core Automated Maintenance System
CAR	Corrective Action Request
CI	Core Inspection
CVP	Conformance Verification Program
DAD	Defense Acquisition Desktop
DCAA/PLA	Defense Contract Audit Agency

DCMA/CL	Defense Contract Management Command
DDHU/E	Product Receipt & Evaluation
DLA	Defense Logistics Agency
DMAG	Depot Maintenance Activity Group
DMFAR	Depot Maintenance for Aircraft Repair
DMISA	Depot Maintenance Inter-service Agreement
DOD	Department of Defense
DR	Deficiency Reporting
DREP	Depot Repair Enhancement Program
E&I	Examination and Inventory
EDSC	Engineering Data Service Center
ESD	Electrostatic Discharge
ETMS	Education and Training Management System
FAR	Federal Acquisition Regulation
FCF	Functional Check Flight
FEMS	Facility Equipment Maintenance System
FOD	Foreign Object Damage
GSA	General Services Administration
GSD	General Support Division
HQ AFMC	Headquarters Air Force Material Command
IAW	In Accordance With
ICBM	Intercontinental Ballistic Missile
ILP	International Logistics Program
ITS	Inventory Tracking System
JEDMICS	Joint Engineering Data Management Information and Control System
MAPA	Mature and Proven Aircraft
MDM	Mobile Depot Maintenance
MDS	Mission, Design, Series
MET	Mission Essential Tasks
MGM	Material Group Manager
MIPR	Military Interdepartmental Purchase Request
MISO	Maintenance Inter-service Support Officer
MRRB	Material Requirements Review Board
MRT	Maintenance Review Team
MSEP	Maintenance Standardization Evaluation Program
MWR	Maintenance Work Request
NDI	Non-Destructive Inspections
NIST	National Institute of Standards and Technology
O&A	Over and Above
O&I	Organizational and Intermediate
OI	Operating Instruction

OJT	On-the-Job Training
OO-ALC	Ogden Air Logistics Center
OO-ALC/BC	Small Business Office
OO-ALC/DPC	Civilian Personnel
OO-ALC/EM	Environmental Management Directorate
OO-ALC/FM	Financial Management Comptroller Directorate
OO-ALC/LA	Aircraft Management Directorate
OO-ALC/LC	Mature and Proven Aircraft Directorate
OO-ALC/LE	Electronic Directorate
OO-ALC/LG	Logistics Management Directorate
OO-ALC/LGP	Logistics Depot Maintenance Division
OO-ALC/LGQ	Quality Assurance Division (Center Quality Office)
OO-ALC/LH	Space and C3I Systems Management Directorate
OO-ALC/LI	Commodities Management Directorate
OO-ALC/LM	ICBM System Program Office Directorate
OO-ALC/PK	Contracting Directorate
OO-ALC/QL	Specialized Management Directorate
OO-ALC/SE	Safety Directorate
OO-ALC/TI	Technical and Industrial Support Directorate
OO-ALC/WM	Air-to-Surface Munitions Directorate
OO-ALC/XP	Plans and Programs Directorate
OO-ALC/YP	F-16 Management Directorate
OO-ALC/YW	Training Systems Management Directorate
OPR	Office of Primary Responsibility
PAC	Production Acceptance Certification
PAO	Project Administration Office
PCCIE	Power Conditioning and Continuation Interfacing Equipment
PDMSS	Programmed Depot Maintenance Scheduling System
PIC	Prime Integration Contract
PME	Precision Measurement Equipment
PMEL	Precision Measurement Equipment Laboratory
POC	Point of Contact
POM	Program Objective Memorandum
PPT	Production Planning Team
PQDRS	Product Quality Deficiency Reporting System (G021)
PR	Purchase Request
QA	Quality Assurance
QAE	Quality Assurance Evaluator
QAF	Quality Assurance Forum (Center)

QAIPT	Quality Assurance Integrated Process Team
QAP	Quality Assurance Plan
QAR	Quality Assessment Rating
QAS	Quality Assurance Specialist
QIMSS	Quality Information Management Standard System
QMB	Quality Management Board
QPI	Quality Performance Indicator
QVI	Quality Verification Inspection
RFP	Request for Proposal
RIA	Recommended Improvement Area
RQA	Request for Quality Assistance
RTR	Recurring Training Requirement
SEI	Software Engineering Institute
SMAG	Supply Management Activity Group
SPD	System Program Director
SPO	Systems Project Office
SSC	Shop Service Center
SSQ	Special Skills Qualification
STSC	Software Technology Support Center
TCTO	Time Compliance Technical Order
TE	Task Evaluation
TMDE	Test, Measurement, and Diagnostic Equipment
TO	Technical Order
TODO	Technical Order Distribution Office
TSPG	Training Systems Product Group
UCI	Unit Compliance Inspection
USAF	United States Air Force
WCD	Work Control Document

Attachment 2

HILL AFB LINES OF QUALITY COMMUNICATION