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AIR FORCE MATERIEL COMMAND**



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This instruction provides quality assurance (QA) policy and assigns QA responsibilities for all AFMC centers, units, and headquarters (HQ) functions. It implements Air Force Policy Directive (AFPD) 63-5, *Quality Assurance*, Air Force Instruction (AFI) 63-501, *Air Force Acquisition Quality Program*, AFI 21-101 *Maintenance Management of Aircraft*, and AFI 21-102, *Depot Maintenance Management*, and applicable provisions in other Air Force and Department of Defense (DoD) directives. Organic quality assurance policy for operational aircraft/equipment for AFMC Test Centers will be in accordance with AFI 21-101, *Maintenance Management of Aircraft*, and AFMCI 21-119, *Objective Center/Test Wing Aircraft Maintenance Management Policy*. This is the initial publication of this instruction.

(AFNWC) This publication supplements Air Force Materiel Command Instruction (AFMCI) 63-501, *AFMC Quality Assurance*, and is supplemented as follows. This supplement establishes the AFNWC Quality Assurance (QA) Program through clarifying guidance and procedures for managing QA for all programs, within all acquisition and sustainment organizations managed by AFNWC. It documents QA guidance and it further specifies requirements of the QA plans prescribed in AFMCI 63-501, by specifying minimum QA plan scope of functional activities. This supplement does not apply to the Air National Guard (ANG), the Air Force Reserve

Command (AFRC), or Civil Air Patrol units and members. This supplement may be supplemented at any level, but all supplements that directly implement this supplement must be routed to AFNWC/ENS for coordination prior to certification and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the Air Force (AF) Form 847, Recommendation for Change of Publication; route AF Form 847s from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://www.my.af.mil/gcss-af61a/afirms/afirms/>. See **Attachment 1** for a Glossary of References and Supporting Information.

1. AFMC Quality Assurance. AFMC is committed to providing superior quality weapon systems, end-items, supplies, and services. AFMC program offices, buying offices, Air Force Research Laboratory, and all Centers must maintain acquisition and/or sustainment quality assurance processes that:

- 1.1. Align the quality management system with strategic planning and AFMC's management commitment.
- 1.2. Provide essential quality policy and objectives for quality planning.
- 1.3. Ensure the overall effectiveness of these efforts throughout the life-cycle of weapon system management including operational support and disposal.

All acquisition and sustainment personnel will be responsible for performing quality functions involved in their assigned duties. Program documentation will describe the quality management system and how it will contribute to minimizing cost, schedule, and performance risks throughout the product life cycle.

2. Relationship to Operational Safety, Suitability, and Effectiveness (OSS&E). Quality management is an important tool of the chief engineer and lead engineer to ensure OSS&E in support of the single manager. Quality assurance trends are means for verifying the associated systems or the processes used in support of such systems are operationally safe, suitable, and effective. While authority for decisions affecting system configuration, maintenance procedures, and authorized usage can be delegated, the chief engineer or lead engineer remains accountable and responsible. The chief engineer or lead engineer will coordinate OSS&E activity with the single manager in accordance with AFMCI 63-1201, *Assurance of Operational Safety, Suitability, & Effectiveness*.

3. Responsibilities and Authorities:

- 3.1. AFMC acquisition and sustainment organizations will ensure the applicable QA provisions are defined, documented, and implemented in their areas of responsibility. This responsibility includes gaining a clear understanding of the organization's objectives as they relate to quality and of the expectations and needs of the customer throughout the weapon system lifecycle. They will monitor and control all activities that impact quality and ensure quality requirements and standards are consistently met.

3.2. International Acquisitions. AFMC organizations responsible for international acquisitions must adhere to international QA policy defined in AFI 63-501, [paragraph 3](#).

3.3. HQ AFMC functional organizations will use QA techniques to measure, assess, report, and improve performance. A QA council, composed of HQ AFMC and center QA representatives as determined by the Center Commander or designee, will meet annually to work common QA issues and assess the overall health of AFMC quality assurance.

3.3.1. HQ AFMC/EN, Directorate of Engineering and Technical Management, will monitor implementation of and ensure compliance with QA policies. They will provide management guidance, assist field activities, and monitor the effectiveness of all AFMC organizations. They will coordinate with SAF, USAF, other MAJCOMs, DoD components, federal agencies, and industry to resolve QA issues of mutual interest and to ensure joint service strategies are provided to all AFMC organizations. They will chair the QA council and manage deficiency reporting policy.

3.3.2. HQ AFMC/LG manages the Supply Management and Depot Maintenance Mission Areas (SMMA and DMMA). The LG directorate will manage assigned DoD and Air Force programs and provide the environment for continual improvement of products, services, and processes associated with item management, transportation, supply, and Depot maintenance activities/policy.

3.3.2.1. The SMMA will promote quality assurance in providing logistics services and processes to fulfill Air Force spare parts requirements. This includes requirements forecasting, item introduction, cataloging, procurement, repair, technical support, data management, item disposal, distribution management, and transportation. They will provide policy, guidance, and resources that create an environment for continuous improvement in the supply processes.

3.3.2.2. The DMMA will promote quality assurance in the overhaul and repair of systems and spare parts, accomplished by both AFMC depots and contract operations. They will provide policy, guidance, and resources that create an environment for continuous improvement in maintenance and repair processes.

3.3.3. HQ AFMC/CE manages the AFMC Installations and Support Mission Area (I&S MA). The I&S MA will employ quality processes in support of units, operations, and their people with facilities, infrastructure, and base support.

3.3.4. HQ AFMC/DO manages the AFMC Test and Evaluation Mission Area (TEMA). The TEMA will employ quality processes in providing support for AFMC's developmental test and evaluation (DT&E) requirements, its T&E infrastructure, and other operational services. The DO directorate will manage operational aircraft/equipment maintenance policy for AFMC product, test, and specialized centers, not including air logistic centers.

3.3.5. HQ AFMC/DR manages AFMC product support mission area (PSMA) and the information services activity group mission areas (ISAG).

3.3.5.1. The PSMA will ensure the quality of resources, policies, and processes required to plan, manage, and integrate weapon systems throughout their life cycles.

- 3.3.5.2. The ISAG will ensure that quality requirements are defined and maintained throughout the development, maintenance, integration, and sustainment of the combat support information systems they provide to the user.
- 3.3.6. HQ AFMC/PK will ensure that proper QA requirements, as requested by the responsible engineering organization, are included in all AFMC solicitations and contracts. HQ AFMC/PKO is the office of primary responsibility for the QA program for service contracts. (See AFI 63-124, *Performance Based Service Contracts*.)
- 3.3.7. HQ AFMC/SC manages the AFMC information management mission area (IMMA). The IMMA will employ quality processes in its business operations.

3.4. Air Force Research Laboratory (AFRL) will ensure the Technology Directorates and Air Force Office of Scientific Research (AFOSR) are supported with trained and competent personnel responsible for QA. They will be responsible for appropriate quality process flow down through their directorates and for integrating quality processes into their research and development efforts. Directorate organizations that organically produce maintenance products, test models, hardware/software changes, or modifications to AFMC systems will document their QA programs in a quality plan.

3.5. Product centers, test centers, and air logistics centers will ensure integrated product teams and/or program offices are supported with well-trained competent personnel responsible for providing quality products and services.

3.5.1. System program directors (SPD) and product group managers (PGM) are responsible for implementing the Acquisition Quality Program of AFI 63-501. Integration of QA processes with operational support and applicable test and laboratory activities will be considered to ensure a quality product.

3.5.1.1. Chief engineers in support of single managers are accountable and responsible for QA duties to ensure manufacturing and repair entities deliver quality products. This includes the selection and qualification of new sources.

3.5.2. Test centers are responsible for contract administration QA and organic maintenance QA.

3.5.2.1. Test center Contract Administration Offices (CAO) are Air Force Contract Administration Service (CAS) components as identified in the *Federal Directory of CAS Components*, and perform test center CAS activities as prescribed in FAR Part 42 and Part 46. Test center CAS QA representatives are responsible for ensuring QA contract administration and audit services are performed in accordance with formal agreements or delegations received from delegating agencies for contracts being performed at their centers.

3.5.2.2. Test Center Organic Maintenance QA will be accomplished in accordance with AFI 21-101 as implemented by AFMCI 21-119.

3.5.3. ALCs and Aerospace Maintenance and Regeneration Center (AMARC). ALCs and AMARC will implement this instruction using provisions contained in functional QA policy directives.

3.5.3.1. ALC and AMARC commanders will designate a center QA focal point responsible for implementing this instruction. Responsibilities will include the

receipt, interpretation, distribution, and implementation of policies and procedures affecting QA and assessment of their effectiveness.

3.5.3.2. **ALC Quality Manuals and Plans.** All ALCs must maintain a center quality manual. All major organic depot maintenance workloads must be documented by the directorate QAP and/or supporting QAPs (see AFMCI 21-115). Figure 1. illustrates the hierarchy of quality program documentation flow. ALCs will establish internal reviews to measure compliance with AFMCI 63-501. The quality manual must be compatible with the provisions of ISO 9001 in order to allow expansion to achieve ISO 9000 registration if required by customers or desired in the future.

3.5.3.3. **AMARC.** A center quality manual is not required; however, all major workloads must be documented by a QAP.

3.5.3.4. **ISO 9000 registration of AFMC QA programs** is not required. Second party certification or third party registration is left to the discretion of the center commander.

3.6. **Air Force Security Assistance Center (AFSAC).** AFSAC will ensure that the required level of QA is provided in all Foreign Military Sales (FMS) contracts that it manages. AFSAC will tailor QA options for FMS purchasers based on the purchasers' identified unique requirements.

3.7. **(Added-AFNWC) AFNWC Responsibilities and Authorities.** QA plans must be established and maintained by all AFNWC acquisition and sustainment management organizations performing any of, but not limited to, the following functional activities:

3.7.1. **(Added-AFNWC) Early Systems Engineering (SE).** Early SE is the application of SE activities before and during the Materiel Solution Analysis, Materiel Development Decision and through Milestone A. Early SE activities are initiated when a capability need is identified, before requirements are defined.

3.7.2. **(Added-AFNWC) Engineering and Manufacturing Development.** Engineering and Manufacturing Development involves developing a system or increment capability, integrating full system, developing executable manufacturing processes, ensuring operational supportability, reducing logistic footprint, integrating human systems, designing for reducibility, protecting critical program information and demonstrating system integration, safety and utility.

3.7.3. **(Added-AFNWC) Field Maintenance.** Field Maintenance refers to any organization which performs maintenance at a field location for nuclear munitions, maintenance operations support, Minuteman III ICBMs, associated missile alert facilities, logistics support for the wing's Intercontinental Ballistic Missile (ICBM) fleet, including nuclear configured Rotary Launcher Assemblies. **EXCEPTION:** AFMC Munitions Squadron (MUNS) organizations will follow AFI 21-2XX series Quality Assurance guidance.

3.7.4. **(Added-AFNWC) Depot Maintenance.** Depot Maintenance refers to any organization which performs maintenance that cannot be at a field location, and is therefore completed at depot facilities. Depot Maintenance includes that maintenance performed on materiel requiring major overhaul or a complete rebuild of parts,

assemblies, subassemblies, and end-items, including the manufacture of parts, modifications, testing, and reclamation as required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment by using more extensive facilities for repair than are available in lower level maintenance activities.

3.7.5. (Added-AFNWC) Facility/Infrastructure Support. Facility/Infrastructure Support includes but is not limited to activities that sustain assigned forces assigned to AFNWC, including equipment, training, personnel administration, benefits, medical care, installations communications/information infrastructure, base operating support, facilities sustainment, restoration, modernization, environmental safety compliance and occupational health considerations.

3.7.6. (Added-AFNWC) Developmental Test and Evaluation (DT&E). DT&E refers to any technical test conducted to provide data on the achievability of critical system performance parameters performed on components, subsystems and/or system level hardware/software configurations.

3.7.7. (Added-AFNWC) Solicitation and Contract Management. Solicitation and Contract Management refers to the process of systematically planning, organizing, executing and controlling the mutually binding legal relationship obligating a seller to furnish supplies/services and a buyer to pay for them, including communicating government requirements, proposals, requests for price, delivery, capability information.

3.7.8. (Added-AFNWC) Training. The processes, procedures, techniques, training devices, and equipment used to train civilian and active duty and reserve military personnel to operate and support a materiel system. This includes individual and crew training; new equipment training; initial, formal, and on-the-job training; and logistics support planning for training equipment and training device acquisitions and installations.

3.7.9. (Added-AFNWC) Logistics. Technical and management activities conducted to ensure supportability implications are considered early and throughout the acquisition process to minimize support costs and to provide the user with the resources to sustain the system in the field.

3.7.10. (Added-AFNWC) Demilitarization (DEMIL)/Disposal. Demilitarization is the act of destroying the military offensive or defensive advantages inherent in certain types of equipment or material. The term comprehends mutilation, dumping at sea, cutting, crushing, scrapping, melting, burning or alteration designed to prevent further use of this equipment and material for its originally intended military or lethal purpose and applies equally to material in unserviceable or serviceable condition that has been screened through the Inventory Control Point (ICP) and declared surplus or foreign excess.

3.7.11. (Added-AFNWC) Sustainment. Sustainment refers to the process used to prepare for and execute the support, maintenance, repair, and disposal of a product while ensuring it is safe, suitable and effective.

3.7.12. (Added-AFNWC) Supply Management. Supply Management refers to item accounting and inventory stock control including but not limited to identification of

supplies, equipment requirements, storage, inspection, identification, receipt of items, facility safety and security, manual and/or automated inventory control actions, timely correction of discrepancies, information, services and any other resources needed to satisfy organizational supply requirements, including program's supply chain management concept and approach.

4. (Added-AFNWC) QA Plan Functional Support. QA plans must be defined, documented and implemented for all AFNWC sustainment and acquisition organizations. **EXCEPTION:** AFMC MUNS organizations will follow AFI 21-2XX series Quality Assurance guidance. At a minimum, all QA plan functional support activities must:

- 4.1. (Added-AFNWC) Establish and maintain a description of all processes;
- 4.2. (Added-AFNWC) Establish and maintain plans for performing all processes;
- 4.3. (Added-AFNWC) Provide adequate resources for performing all processes;
- 4.4. (Added-AFNWC) Assign responsibility and authority for performing all processes;
- 4.5. (Added-AFNWC) Train the people performing or supporting the processes;
- 4.6. (Added-AFNWC) Monitor and control the processes;
- 4.7. (Added-AFNWC) Review the activities, status, and results of the processes;
- 4.8. (Added-AFNWC) Assess metrics;
- 4.9. (Added-AFNWC) Plan for continuous improvement;
- 4.10. (Added-AFNWC) Evaluate customer feedback;
- 4.11. (Added-AFNWC) Report discrepancies;
- 4.12. (Added-AFNWC) Utilize corrective actions;
- 4.13. (Added-AFNWC) Utilize preventive actions;
- 4.14. (Added-AFNWC) Utilize internal audits;
- 4.15. (Added-AFNWC) Document all quality records;
- 4.16. (Added-AFNWC) Utilize root-cause analysis;
- 4.17. (Added-AFNWC) Maintain Configuration Management of quality records.

5. (Added-AFNWC) QA Plan Compliance.

5.1. (Added-AFNWC) All AFNWC acquisition and/or sustainment organizations will utilize self-inspection checklists to ensure complete compliance with this policy.

5.2. (Added-AFNWC) AFNWC/EN will conduct Staff Assistance Visits (SAVs) annually to ensure compliance with this policy.

6. Prescribed and Adopted Forms.

6.1. Prescribed forms.

There are no prescribed forms.

6.2. Adopted forms.

(Added-AFNWC) AF Form 847, *Recommendation for Change of Publication*

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Attachment 1 (Added-AFNWC)**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION***References*

(AFNWC) **AFMCI 63-501**, *AFMC Quality Assurance*, 14 December 2001

(AFNWC) **AFMAN 33-363**, *Management of Records*, 1 March 2008

Abbreviations and Acronyms

(AFNWC) **AF**—Air Force

(AFNWC) **AFMAN**—Air Force Manual

(AFNWC) **AFMC**—Air Force Materiel Command

(AFNWC) **AFMCI**—Air Force Materiel Command Instruction

(AFNWC) **AFNWC**—Air Force Nuclear Weapons Center

(AFNWC) **AFRC**—Air Force Reserve Command

(AFNWC) **ANG**—Air National Guard

(AFNWC) **DEMIL**—Demilitarization

(AFNWC) **DT&E**—Developmental Test and Evaluation

(AFNWC) **ICBM**—Intercontinental Ballistic Missile

(AFNWC) **ICP**—Inventory Control Point

(AFNWC) **MUNS**—Munitions Squadron

(AFNWC) **OPR**—Office of Primary Responsibility

(AFNWC) **QA**—Quality Assurance

(AFNWC) **RDS**—Records Disposition Schedule

(AFNWC) **SAV**—Staff Assistance Visit

(AFNWC) **SE**—Systems Engineering