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MUNITIONS AND MISSILE MAINTENANCE MANAGEMENT

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This publication implements Air Force Policy Directive (AFPD) 21-2, *Munitions* and is consistent with AFPD 13-5, *Air Force Nuclear Mission*. It provides the strategic structure for Department of the Air Force munitions units and provides the policy framework for uniform and effective management of nuclear, conventional, and intercontinental ballistic missiles (ICBM) organizations. This publication applies to all uniformed members of the Regular Air Force, United States Space Force, Air Reserve Component (Air Force Reserve and Air National Guard), Department of the Air Force (DAF) civilian employees, and other individuals or organizations as required by binding agreement or obligation with the DAF who manage, steward, and maintain munitions, nuclear weapons, ICBM, and related systems and components. MAJCOM and FIELDCOM supplements to this publication must be routed to the OPR of this publication for coordination prior to certification and approval. MAJCOMs and FIELDCOMs have 90 calendar days from the effective date of this publication to rewrite or certify as current supplements to this publication. Changes to documentation requirements in this instruction may exceed the 90 calendar day implementation requirement; however, documents will be updated or revised at the next normal required or mandated update or revision point. Units will not supplement this publication. Units will contact the applicable MAJCOM or FIELDCOM for interpretations of the guidance contained in this publication. Organizational structures may differ in the Air Reserve Component (ARC). In these instances, responsibilities will be assigned to the appropriate functional manager command channels. This publication outlines organizational structure based upon mission focus and outlines common responsibilities across the munitions and ICBM maintenance community. Where specific requirements exist relative to a specific functional specialty, the requirement is

delineated in the applicable Air Force Instruction (AFI). The authorities to waive wing/unit level requirements in this publication are identified with a Tier (T-0, T-1, T-2, or T-3) number following the compliance statement. Subordinate paragraphs carry the parent tiering unless otherwise specified. See Department of the Air Force Instruction (DAFI) 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requester's commander for non-tiered compliance items. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the OPR using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command." The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This interim change revises AFMAN 21-200 by: (1) Modifying supporting references, (2) modifying the ICBM Maintenance Squadron structure, (3) correcting the link to the standardized duty title listing, (4) updating trainer evaluation guidance for ICBM units, and (5) clarifying procedures for making up missed evaluations or inspections.

Chapter 1

GENERAL

1.1. Overview. This instruction contains general information to support Air Force munitions and ICBM maintenance communities and provides broad responsibilities for these organizations. This Air Force Manual is the capstone document that defines munitions and ICBM maintenance organizational structure and related roles and responsibilities. When requirements of a specific item in a technical manual conflict with this instruction, the specific technical manual takes precedence. Units notify the MAJCOM staff of conflicts.

1.2. Defining Munitions. Munitions are defined within AFPD 21-2. Throughout this AFMAN, the term "munitions" refers to this definition.

1.3. Defining Duty Periods. Commanders will ensure 2W and 2M personnel handling, loading, or performing maintenance actions on nuclear or conventional weapon systems or explosives do not exceed 12 hours of continuous duty followed by a period which provides at least 8 hours of uninterrupted rest before starting the next duty shift. **(T-1).** Duty time begins when personnel report for duty and ends when their supervisor releases them. Consider climatic conditions for local work/rest cycles during extreme temperatures. **EXCEPTION:** The Group Commander or equivalent may extend maximum duty periods up to 16 hours to accomplish the mission using risk a management decision making process. **(T-1).**

1.3.1. All personnel are individually responsible to ensure they obtain sufficient rest during a rest period.

1.3.2. Air Force Global Strike Command Commander will determine duty and rest periods for teams and individuals dispatching to the missile field.

1.3.3. Civilian technician work and rest requirements are governed by respective contractual and labor management agreements.

1.4. Maintenance Cyber Discipline. All units must focus on daily cyber hygiene activities in order to create a culture of cyber awareness, discipline, and strict compliance. Refer to requirements in AFI 21-101 for further Maintenance Cyber Discipline guidance.

Chapter 2

MUNITIONS AND ICBM MAINTENANCE ROLES AND RESPONSIBILITIES

2.1. Air Staff.

2.1.1. Air Force Nuclear Weapons, Missiles and Munitions Division (AF/A4LW) Division Chief will:

2.1.1.1. Develop, articulate, and clarify Air Force munitions and armament systems maintenance and logistics policies and produce applicable self-assessment communicators in the Management and Internal Control Toolset based on these policies.

2.1.1.2. Serve as the AF point of contact for matters relating to munitions and armament logistics.

2.1.1.3. Serve as a voting member and coordinate on applicable portions of the quarterly Logistics Working Group (LWG) with the Air Force Directorate of Logistics and division co-chairs.

2.1.1.4. Manage force development, including the accession, education and training, retention, and optimum utilization of the Regular Air Force, Air Force Reserve, Air National Guard, and civilian workforce for the 2M, 2W, 8S, and 21M career fields through its assigned Air Force Career Field Managers.

2.1.1.5. Execute Functional Area Manager duties and responsibilities for the 2M, 2W, 8S, and 21M career fields as outlined in DAFI 10-401, *Operations Planning and Execution.*

2.1.1.6. Provide oversight on all acquisitions pertaining to munitions and armament systems.

2.2. Major Commands (MAJCOMs).

2.2.1. All MAJCOM nuclear weapons, munitions, ICBM, and armament systems Division Chiefs will:

2.2.1.1. Review and validate operational requirements, concepts of operation, and concepts of employment.

2.2.1.2. Support acquisition/life cycle logistics; systems engineering; Research, Development, Test, and Evaluation; and maintenance management (e.g., sustainment conferences, product improvement working groups).

2.2.1.3. Review project programming documents. Participate in design reviews to define, justify, and satisfy weapon system and maintenance requirements.

2.2.1.4. Assist MAJCOM Manpower and Organization Division (A1M) staff in determining manpower requirements. Coordinate with AF/A4LW for validation.

2.2.1.5. Provide MAJCOM functional management for assigned 2M, 2W, 8S, and 21M personnel. Ensure units are optimally manned and trained in accordance with Air Force manpower and training directives.

2.2.1.6. Execute Functional Area Manager duties and responsibilities outlined in DAFI 10-401.

2.2.1.7. Participate in applicable personnel development team meetings per approved charters.

2.2.1.8. Develop and implement plans, policies, and procedures governing management, control, supportability, and employment of munitions in all peacetime, contingency, and exercise scenarios within the command.

2.2.1.9. Determine requirements for munitions training courses and submit to MAJCOM A1 Formal Training for quota allocation.

2.2.1.10. Review, validate, and coordinate maintenance and Technical Assistance Requests (TAR) from field units with depots in accordance with Technical Order (T.O.) 00-25-107-WA-1, *Maintenance Assistance*, and T.O. 00-25-108-WA-1, *Communications-Electronics (C-E) Depot Support.*

2.2.1.11. Evaluate armament and munitions systems AFTO Form 22 submissions and forward to the next approval authority in accordance with T.O. 00-5-1-WA-1, *Air Force Technical Order System*.

2.2.1.12. Serve as voting members for the Air Force Maintenance Executive Board, World Wide Senior Munitions Manager's Conference, and Utilization and Training Workshops conferences and the Tactical Munitions Reporting System Steering Group. Provide functional representatives to working groups as required by the Air Force Maintenance Executive Board and World Wide Senior Munitions Manager's Conference.

2.2.1.13. Supplement self-assessment communicators as required, with MAJCOM unique items for all armament system, munitions, and/or space launch maintenance functions.

2.2.1.14. Ensure capability exists to grant permissions to the Air Force's Munitions Command and Control (AFMC2) or Nuclear Munitions Command & Control (NMC2) SharePoint ® environments as applicable.

2.2.2. Lead Command Commanders will:

2.2.2.1. Execute responsibilities identified in DAFPD 10-9, *Lead Command/Lead Agent Designation and Responsibilities For United States Air Force Weapon Systems, Non-Weapon Systems, and Activities.* **(T-1).**

2.2.2.2. Advocate complete weapon system lifecycle logistics to include acquisition, sustainment, modification, and disposal.

2.2.2.2.1. Establish a weapon system modification and life extension program planning cycle. Specify various plan contents to ensure proper and effective use of maintenance resources. Oversee munitions system conversions, new deployments, and any resultant redistribution of weapons.

2.2.2.2.2. Develop procedures to meet AFI 91-101, *Air Force Nuclear Weapons Surety Program*, requirements. Consult with the system engineer or equipment specialist when authorized procedures do not adequately address nuclear system faults that occur on a loaded nuclear weapon system.

2.2.2.3. Ensure accountable equipment is authorized and allocated within applicable allowance standards.

2.2.2.4. Develop In-Process Inspection requirements, as necessary, for applicable weapons systems and incorporate into applicable T.O.s.

2.2.3. Supported MAJCOM Commanders will:

2.2.3.1. Work with Lead Command to prepare and develop funding requests and Program Objective Memorandum submissions to replace equipment before the end of its life cycle and to alleviate equipment shortages. For replacement equipment items managed under Centralized Asset Management, work with Lead Command to prioritize equipment items using the Equipment Requirements System in the Air Force Equipment Management System.

2.2.3.2. Coordinate with Lead Command and ensure mission essential equipment levels and allowance standards are published.

2.2.3.3. Validate and advocate for personnel, facilities, equipment, and funding requirements.

2.2.3.4. Develop munitions support plans and annexes to support Combatant Commanders.

2.2.4. Air Education and Training Command (AETC) Additional Responsibilities. AETC Commander will:

2.2.4.1. In conjunction with the Air Force Career Field Managers, assist in the development of Career Field Education and Training Plans (CFETP), Career Development Courses, and other training materials based on requirements established in Utilization and Training Workshops.

2.2.4.2. Coordinate drafts and final training products with AF/A4LW.

2.2.4.3. Ensure all tools, support equipment, and weapons trainers are on hand and serviceable in the latest configurations to meet all current training requirements.

2.2.5. Air Force Materiel Command (AFMC) Additional Responsibilities. AFMC Commander will assign weapon system/program acquisition and sustainment management responsibilities for total program support, per AFI 63-101_20-101, *Integrated Life Cycle Management*. AFMC will:

2.2.5.1. Develop a management plan to cover on-site technical activities to be performed and coordinate with the using command.

2.2.5.2. Process munitions unit requests to establish a DoD Activity Address Code (DoDAAC) after MAJCOM validation.

2.2.5.3. Submit an annual schedule of Air Logistics Complex conferences and working groups to AF/A4LW not later than 1 May of each year. Examples include ICBM Planning Conference, ALCM Users Day, Global Asset Positioning conference, Product Improvement Working Groups, Nuclear Weapons Technical Interchange Meetings, etc.

2.2.5.4. Ensure development of technical standards for storage, maintenance, handling, surveillance, and disposition of munitions.

2.2.5.5. Manage the configuration, distribution, sustainment, and replenishment of weapon systems trainers and munitions testing equipment to include configuration of assigned weapons.

2.2.5.6. Develop life-cycle plans to ensure Air Force-owned trainer components at field units are serviceable and in the latest configuration.

2.2.5.7. Report critical munitions issues to affected MAJCOMs.

2.2.5.8. Provide T.O.s, supply support, test equipment, and training devices.

2.2.5.9. Provide depot-level maintenance capability on Electronics Systems Test Sets (ESTS), Reentry System Test Sets, and Re-entry Field Support Equipment.

2.2.5.10. In addition to the responsibilities in AFMAN 21-203, *Nuclear Accountability Procedures*, and AFMAN 21-204, *Nuclear Weapons Maintenance*, the Air Force Nuclear Weapons Center (AFNWC) will:

2.2.5.10.1. Maintain the Master Nuclear Certification List for Air Force nuclear certified equipment and is the focal point for the Air Force nuclear certification program per AFI 63-125, *Nuclear Certification Program*.

2.2.5.10.2. Develop and evaluate the safety of nuclear cargo handling and loading procedures to ensure technical provisions are adequate for Air Force modes of transportation.

2.2.5.10.3. Evaluate the safety of nuclear cargo, equipment, and operations pursuant to responsibility as the Air Force nuclear safety engineering focal point.

2.2.5.10.4. Serve as focal point to coordinate Air Force support of nuclear developmental testing with the center test authority. Coordinate system operational testing requirements with MAJCOM Commanders.

2.2.5.10.5. Serve as the Air Force programmatic and technical interface to Department of Energy (DOE) on counter proliferation and nuclear matters.

2.2.5.10.6. Provide Air Force Lead Project Officers to manage each joint DoD - DOE nuclear weapon program in accordance with DoD Instruction 5030.55, *DoD procedures for Joint DOD-DOE Nuclear Weapons Life-Cycle Activities*, and AFI 63-103, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management.*

2.2.5.10.7. Conduct research and development of advanced weapons technologies, and lead Air Force and joint studies for nuclear weapons, weapon system modifications, life extension programs, and industrial base sustainment.

2.2.5.10.8. Manage T.O.s for mate, demate, loading, delivery, and air transportation of nuclear weapons and nuclear cargo to ensure procedures comply with nuclear safety rules. Manage T.O. foreign military sales cases for non-US NATO delivery units.

2.2.5.10.9. Collect and consolidate MAJCOM nuclear weapons trainer requirements and manage procurements and repair/refurbishment with NNSA.

2.2.5.10.10. Provide engineering support for Explosive Ordnance Disposal (EOD) technical orders identifying hazards and explosives in the associated missile system.

Review source data, EOD technical manual procedures for technical accuracy and feasibility. Designate Engineering Authority to approve EOD technical orders, revisions, and changes (e.g., 60N-W87.05-6, 60N-W78.92-6).

2.2.5.11. The Global Ammunition Control Point operates and manages Air Force conventional munitions stockpiles in accordance with DAFMAN 21-201, *Munitions Management*, and applicable DoD and Air Force directives.

2.2.6. Air Force Global Strike Command Additional Responsibilities. AFGSC Commander will:

2.2.6.1. Participate in the Joint Nuclear Weapons Project Officers Group and the Maintenance and Logistics subgroup to ensure issues affecting weapon development, modification, and sustainment are addressed.

2.2.6.2. Coordinate with AFMC to determine depot supportability requirements.

2.2.6.3. Execute responsibilities as Lead Command for the Air Force NMC2 SharePoint ® environment by advocating for its funding, design, development, and sustainment.

2.2.6.4. Develop requirements and advocate for nuclear weapons trainers. Provide requirements to AFNWC and support the AFNWC Product Supprt Manager with product sustainment (manage Work for Others contract work with NNSA via Strategic Partnership Agreements).

2.2.6.5. Provide Air Force EOD nuclear technical expertise to the Air Force Demolition Munitions Manager, Air Force Civil Engineering Center (AFCEC/CXD), and joint/interdepartmental agencies. In accordance with AFMAN 32-3001, *Explosive Ordnance Disposal (EOD) Program*, the staff will provide information related to nuclear accident or incident response, inspection criteria, technical procedures, training, training devices, equipment, and health and safety issues. Additionally, the EOD staff manages, coordinates changes, and publishes/distributes the nuclear 60-series EOD technical publications.

2.2.6.6. Manage T.O.s in the Joint Nuclear Weapons Publication System (JNWPS) for the Air Force and serve as the Air Force Executive Agent to the JNWPS Council. Forward draft changes of JNWPS manuals to applicable MAJCOMs for review. HQ AFGSC/A4Z serves as the final Air Force approving office for changes to JNWPS T.O.s. Changes affecting Air Force policy directives, instructions, or manuals are approved by AF/A4LW.

2.2.6.7. Provide logistics Program Managers to manage all aspects of maintenance and logistics requirements for Air Force nuclear weapons systems. Managers provide maintenance and logistics expertise to the Joint Nuclear Weapons Project Officers Group and support the Lead Project Officer on maintenance and logistics issues affecting weapon development, modification, and sustainment. Logistics Program Managers are assigned as the Chairman of their respective Maintenance and Logistics Project Officers Group Subgroups.

2.2.6.8. Serve as the Air Force liaison for communications with Defense Threat Reduction Agency and NNSA.

2.2.6.9. Serve as the Service Logistics Agent for Air Force-assigned nuclear weapons.

2.2.6.10. Represent the Air Force as a member of the Nuclear Reports Management Group.

2.2.6.11. Track location and status of nuclear weapons.

2.2.7. Air Combat Command (ACC) Additional Responsibilities. ACC Commander will:

2.2.7.1. Execute responsibilities as Lead Command for the Air Force AFMC2 SharePoint ® environment, to include funding, design, development, and sustainment advocacy.

2.2.7.2. Advocate for design, development, and sustainment to the Air Force Information Technology Lead MAJCOM (AFMC) for munitions Automatic Identification Technology and information system requirements.

2.3. Wing/Installation Commander (or equivalent). These responsibilities are aligned to the first Wing/Installation Commander in the munitions activity's chain of command. In addition to the responsibilities found in AFI 21-101, Wing/Installation Commanders will:

2.3.1. Appoint the Munitions Accountable Systems Officer (MASO) in accordance with DAFMAN 21-201 (for conventional munitions accounts) and AFMAN 21-203, *Nuclear Accountability* (for nuclear munitions accounts). **(T-0).** These appointment authorities cannot be delegated.

2.4. Group Commander (or equivalent). In addition to the munitions-related responsibilities found in AFI 21-101, Group Commanders will:

2.4.1. Ensure a Maintenance Standardization & Evaluation Program (MSEP) is implemented in compliance with the requirements established in **Chapter 7**. **(T-1).**

2.4.2. Develop procedures for control and management of tools and equipment per AFI 21-101 and **Chapter 9**. **(T-1).**

2.5. Squadron Commander (or equivalent). In addition to the munitions-related responsibilities found in AFI 21-101, Squadron Commanders will:

2.5.1. Ensure applicable Emergency Action Checklists are developed and maintained to include the following: war/contingency/Emergency War Order (EWO) related actions; crash, fire, and explosive mishaps; major accident response; loss of communication; severe weather warnings; disasters; increased force protection conditions; Nuclear Weapon System Mishaps/Safety Deficiency Reports; and evacuations. **(T-1).**

2.5.1.1. Ensure checklists are coordinated with supporting base agencies (e.g., Fire, Security Forces). **(T-2).**

2.5.1.2. Ensure explosive and mishap checklists are coordinated with wing weapons safety office. **(T-2).**

2.5.1.3. Ensure Emergency Action Checklists are reviewed for accuracy annually by all affected agencies. **(T-2).**

2.5.2. Ensure munitions facilities sited for explosives storage, inspection, and maintenance are used for their intended purpose. **(T-0).**

2.5.3. Ensure that munitions/ICBM organizations have sufficient Secure and Non-secure Voice, Secure Internet Protocol Network (SIPRNET), and Non-secure Internet Protocol Network (NIPRNET) capability. **(T-1).** Internet connectivity for munitions support is required

due to its criticality to the war fighting capability. Accurate and timely munitions reporting to higher headquarters depends upon this connectivity.

2.5.3.1. Small and unique munitions organizations may utilize the Secure Voice and SIPRNET capability of another flight or organization as long as it is readily available within one hour to munitions supervisors.

2.5.4. Ensure the following software/applications and capabilities, as applicable to meet mission requirements, are available on or for all computing devices, to include Electronic Tools (eTools). **(T-1).**

2.5.4.1. Tactical Munitions Reporting System Web

2.5.4.2. Theater Integrated Combat Munitions System (TICMS), or other approved AF system.

2.5.4.3. AFMC2 and/or NMC2

2.5.4.4. Automatic Identification Technology

2.5.4.5. Digitized T.O.s.

2.5.4.6. Integrated Maintenance Data System/G081

2.5.4.7. Defense Integration and Management of Nuclear Data Services (DIAMONDS)

2.5.4.8. Connectivity technologies such as secure Government Local Area Network (LAN), wireless LAN, Private Commercial Cellular, Virtual Private Network (VPN) over Public Cellular and Tactical Wi-Fi/Cellular.

2.5.5. Ensure intrusion detection systems, if installed, are in compliance with DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives.* **(T-0)**. If an intrusion detection system is not available, protect munitions as outlined in DAFI 31-101, *Integrated Defense (ID)*. **(T-1)**.

2.5.6. Ensure unit is capable of executing EWO, mobility, contingency, and exercise plans as tasked. **(T-1).**

2.5.7. Ensure Special Experience Identifiers are awarded to personnel upon qualification in accordance with AFMAN 36-2100, *Military Utilization and Classification*. **(T-3).**

2.5.8. Ensure annual review of applicable host tenant support agreements, inter-service support agreements and Memorandum of Agreement is completed. **(T-3).**

2.5.9. Ensure the Access, Approval, and Authority List (AAAL) (or equivalent) and Change Letters are managed per **Chapter 8**. **(T-1).**

2.6. Operations Officer (OO)/Maintenance Superintendent (MX SUPT) (or equivalent). The OO/MX SUPT advises the Squadron Commander on technical matters, leads a mission-focused maintenance effort, and manages resources necessary to accomplish the mission. In addition to the munitions-related responsibilities found in AFI 21-101, OO/MX SUPTs will:

2.6.1. Ensure only those individuals awarded the 5 skill level or higher are certified as conventional munitions crew chiefs or approve exceptions per the Qualification Training Plan listed in the 2W0X1 CFETP. **(T-3).**

2.6.2. Ensure explosives operations are performed by a minimum of two personnel, one of which must be task-qualified. **(T-3).** Single-person explosives operations are authorized when local written procedures identify the specific operation to be performed. These procedures shall be coordinated through the Wing Safety Office and are approved by the squadron commander.

EXCEPTION: Single person Line Delivery and Inspection operations are authorized with controls for safety and oversight (e.g., periodic radio contact).

2.7. Flight Commander/Chief. The Flight Commander/Chief is responsible to the Squadron Commander for the leadership, supervision, and training of all assigned personnel. Flight Commanders/Chiefs may delegate responsibilities involving day-to-day functioning of sections and elements, as appropriate. For a Conventional Munitions Flight, the Flight Commander/Chief is also responsible for duties identified in **paragraph 2.6** In addition to the munitions-related responsibilities found in AFI 21-101, Flight Commanders/Chiefs will:

2.7.1. Review and correct discrepancies in the Unit Manning Document and Unit Personnel Management Roster. **(T-3).**

2.7.2. Review Quality Assurance (QA) reports to identify trends, determine appropriate corrective actions, and prevent failures. **(T-3).**

2.8. Section OIC/NCOIC (or equivalent). The Section NCOIC is responsible to the respective Flight Commander/Chief for the management, supervision, and training of assigned personnel. The Section NCOIC is the technical advisor in their area. In addition to the munitions-related responsibilities found in AFI 21-101, Section OIC/NCOICs will:

2.8.1. Ensure Munitions Control/ICBM Maintenance Operations Center (MMOC) is notified of changes to fire symbol, hazard symbol, controlled inventory item code, classified munitions storage, and/or other changes affecting munitions storage and/or maintenance facilities within the Munitions Storage Area (MSA), Weapons Storage Area (WSA), or Vault Storage Area as soon as possible after they occur. **(T-1).**

2.8.1.1. Immediate T.O. 11N-20-11 line number updates will be provided only when a primary hazard changes at storage or operating locations. Additionally, introduction of any new weapon type will also be called in as they occur even if of a lesser hazard. All other line number updates will be called in to Control at the beginning and end of each shift. **(T-1).**

2.8.2. Notify Munitions Control/MMOC of any situation that may warrant submission of a Nuclear Weapon System Mishap/Safety Deficiency Report. **(T-0).**

2.8.3. Ensure Munitions Control/MMOC is notified as soon as possible of personnel and support equipment status, shortfalls, mission delays, and any other significant operational issues. **(T-3).**

2.8.4. Prepare and submit schedules as directed. **(T-3).**

2.8.5. Prepare and submit special experience identifier requests for assigned technicians meeting qualification criteria.

2.9. Munitions Accountable Systems Officer (MASO). The MASO oversees all aspects of daily accountability and management of the conventional and/or nuclear weapons stockpile. The

MASO is accountable to the requirements established in AFI 23-111, *Management of Government Property in Possession of the Air Force*. For specific conventional MASO responsibilities, refer to DAFMAN 21-201. For specific nuclear MASO responsibilities, refer to AFMAN 21-203.

Chapter 3

MUNITIONS AND ICBM MAINTENANCE ORGANIZATIONS

3.1. Wings. Air Force wings are the primary maintenance level for munitions. Wings prepare for and execute activities in support of Combatant Commander commitments or assigned missions such as deactivation, conversion, and the Force Development Evaluation program. Additionally, they execute maintenance management guidance and procedures to achieve the most efficient use of manpower and fiscal resources, surety, readiness, and maintenance productivity.

3.1.1. **All Squadrons.** Develop, maintain, and coordinate all applicable AFI-directed programs and plans affecting the unit. (e.g. Orderly room, Unit Deployment Manager, Resource Advisor, Personal Reliability Program, Security Manager duties, etc.). Some of these functions may be executed at the Group level.

3.2. Munitions Squadrons (MUNS) and Munitions Flights. Munitions organizations are aligned in accordance with AFI 38-101, *Air Force Organization*, and amplifying guidance in **Figure 3.1** and **Figure 3.2** as well as **Table 3.1** and **Table 3.2**. Munitions units are responsible for command and control; administration and management of training, resources, and programs; and the control, accountability, storage, receipt, shipment, inspection, maintenance, assembly, flightline delivery, armament systems (if applicable), and limited disposition of munitions and associated components. Munitions units manage utilization of munitions and maintenance information technology systems. Squadron and flight personnel manage and maintain all assigned tools, test equipment, munitions handling equipment, and associated support equipment.

3.2.1. Munitions Squadron (MUNS) Organizational Structure. The MUNS commander is directly responsible to the group commander (or equivalent) and is organized in accordance with **Figure 3.1**. The Unit Manning Document is aligned according to the Air Force approved template at **Table 3.1**. Dependent upon assigned mission, a MUNS may consist of Production, Materiel, Systems, Armament, Conventional/Air Launched Cruise Missile (CALCM/ALCM), and Special Weapons flights.

3.2.1.1. The Combat Munitions Training Section is typically aligned under the Production Flight; however, the section may be combined with squadron training under the Systems Flight. Units are not required to meet Combat Munitions Training Program requirements for the following munitions systems that may appear on the Unit Committed Munitions List as primary or support munitions: ALCM, CALCM, and B61 and B83 bombs. These systems are not maintained by 2W0X1 personnel or readily deployable and not generally prepared for use in a mass production environment.

3.2.1.2. The MUNS may include 21M, Munitions and Missile Maintenance officers; 2W0X1, Munitions Systems; 2W1X1, Armament Systems; 2W2X1, Nuclear Weapons Systems; 2M0X1, Missile and Space Systems Electronics; 3D1X2, Cyber Transport System; 2R0/1, Maintenance Management Systems; 2S0X1, Supply Management, and authorized Commander's Support Staff (e.g., personnel, workgroup managers, training management). Munitions Squadrons designated as Geographically Separated Units may be authorized other specialties such as Aerospace Ground Equipment (AGE) and Vehicle Maintenance in accordance with applicable manpower standards.

3.2.1.3. Generally, a MUNS is established when the unit's mission involves critical, diverse, and multi-functional capabilities or when essential capabilities demand coordinated and simultaneous activity of multiple 2W and/or 2M or other specialty skills on a scale broader than what a munitions Flight can provide.

3.2.2. Munitions Functions/Activities. Munitions squadrons and flights may physically or functionally consolidate internal workcenters and activities to maximize operational efficiency. MAJCOM functional staff will be notified. However, MAJCOM approval is not required. Unit Manning Documents will not be changed to reflect local consolidation. **(T-1).** When consolidating, the organizational structure outlined in **Figure 3.1** and **Figure 3.2** remains the approved structure. Resources are earned to support wartime, training, or other mission requirements; therefore, no additional resources are earned or lost due to local consolidation. See **paragraph 3.2.3** for small and unique munitions organizational structure.

3.2.2.1. Production Flight or Section. The Production Flight/Section assembles, disassembles, delivers, and maintains conventional munitions, missiles, containers, dispensers, assigned Munitions Materiel Handling Equipment and training items.

3.2.2.2. Materiel Flight or Section. The Materiel Flight/Section stores, handles, inspects, ships, receives, accomplishes local dispositions, coordinates transportation, and accounts for munitions, containers, dispensers, and training items.

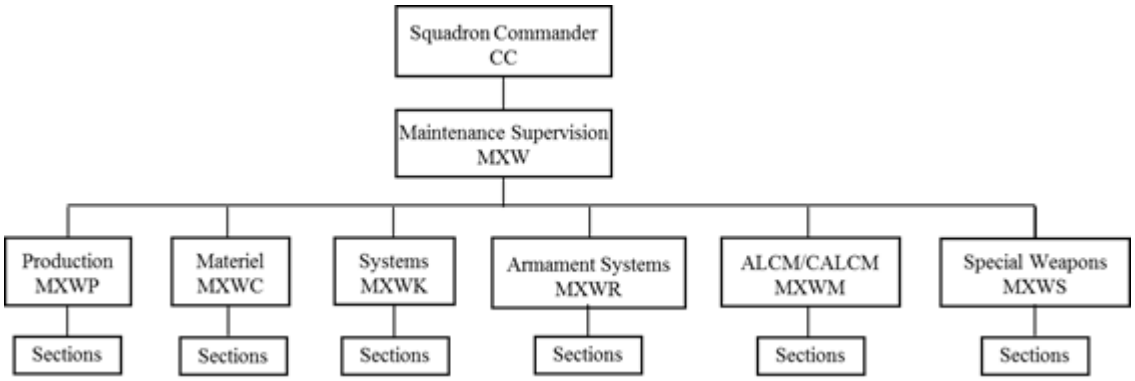
3.2.2.3. Systems Flight or Section. The Systems Flight/Section provides broad command and control, direction, and support for all munitions activities to include training, resources, munitions information systems, facilities, and mobility programs. The flight/section plans, schedules, coordinates, controls, and directs all munitions activities.

3.2.2.4. Armament Systems Flight. The Armament Systems Flight performs off-equipment maintenance of weapons release systems, guns, munitions racks, adapters, pylons, and launchers.

3.2.2.5. Air-Launched Cruise Missile (ALCM) Flight. The ALCM Flight performs on-equipment and off-equipment maintenance on assigned ALCM and associated equipment. This flight may include an optional Weapons Maintenance Section designated as MXWMW assigned with nuclear maintenance responsibilities where applicable.

3.2.2.6. Special Weapons Flight or Strategic/Nuclear Weapons Maintenance Flight or Section. The Special Weapons Flight/Section performs on-equipment and off-equipment maintenance on assigned nuclear weapons, ICBMs, Reentry Systems (RS), Reentry Vehicles (RV), and associated equipment.

Figure 3.1. Munitions Squadron (MUNS) Organizational Structure.



NOTE: **Table 3.1** thru **Table 3.5** contain three columns reflecting approved Organizational Source Code (OSC), organizational title and organizational level.

Table 3.1. Munitions Squadron (MUNS).

OSC	TITLE	LEVEL
CC	COMMANDER	SQUADRON
MXW	MAINTENANCE SUPERVISION	SQUADRON
MXWC	MUNITIONS MATERIEL	FLIGHT
MXWCA	MUNITIONS OPERATIONS	SECTION
MXWCB	MUNITIONS INSPECTION	SECTION
MXWCC	MUNITIONS STOCKPILE MANAGEMENT	SECTION
MXWP	MUNITIONS PRODUCTION	FLIGHT
MXWPA	CONVENTIONAL MAINTENANCE	SECTION
MXWPB	LINE DELIVERY	SECTION
MXWPC	PRECISION GUIDED MUNITIONS	SECTION
MXWPD	MUNITIONS SUPPORT EQUIPMENT	SECTION
MXWPT	COMBAT MUNITIONS TRAINING	SECTION
MXWK	MUNITIONS SYSTEMS	FLIGHT
MXWKA	MUNITIONS CONTROL	SECTION
MXWKB	MOBILITY/PLANS	SECTION
MXWKC	PLANS & SCHEDULING	SECTION
MXWKD	TRAINING	SECTION
MXWM	ALCM/CALCM	FLIGHT
MXWMM	MISSILE MAINTENANCE	SECTION
MXWMS	SUPPORT	SECTION
MXWMA	ANALYSIS	SECTION

OSC	TITLE	LEVEL
MXWML	LLA/PLA MAINTENANCE	SECTION
MXWMV	VERIFICATION AND CHECKOUT EQUIPMENT	SECTION
MXWMW	WEAPONS MAINTENANCE	SECTION
MXWR	ARMAMENT SYSTEMS	FLIGHT
MXWRM	MAINTENANCE	SECTION
MXWRS	SUPPORT	SECTION
MXWRV	B-2 VERIFICATION AND CHECKOUT EQUIPMENT	SECTION
MXWS	SPECIAL WEAPONS	FLIGHT
MXWSA	ANALYSIS	SECTION
MXWSK	NUCLEAR ACCOUNTABILITY AND REPORTING	SECTION
MXWSM	MISSILE MAINTENANCE	SECTION
MXWSR	RV/RS MAINTENANCE	SECTION
MXWSW	WEAPONS MAINTENANCE	SECTION
MXWSS	WEAPONS SUPPORT	SECTION
MXWSL	LLA/PLA MAINTENANCE	SECTION

Figure 3.2. Munitions Flight Organizational Structure.

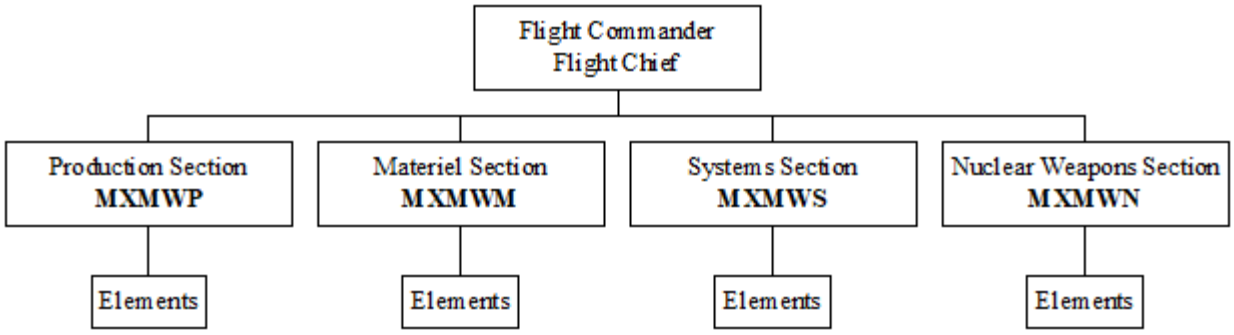


Table 3.2. Munitions Flight.

OSC	TITLE	LEVEL
MXMW	MUNITIONS FLIGHT	FLIGHT
MXMWP	MUNITIONS PRODUCTION	SECTION
MXMWPA	CONVENTIONAL MAINTENANCE	ELEMENT
MXMWPB	LINE DELIVERY	ELEMENT
MXMWPC	PRECISION GUIDED MUNITIONS	ELEMENT

OSC	TITLE	LEVEL
MXMWPD	MUNITIONS SUPPORT EQUIPMENT	ELEMENT
MXMWM	MUNITIONS MATERIEL	SECTION
MXMWMA	MUNITIONS OPERATIONS	ELEMENT
MXMWMB	MUNITIONS INSPECTION	ELEMENT
MXMWMC	MUNITIONS STOCKPILE MANAGEMENT	ELEMENT
MXMWS	MUNITIONS SYSTEMS	SECTION
MXMWSA	MUNITIONS CONTROL	ELEMENT
MXMWSB	COMBAT PLANS/TRAINING/MOBILITY	ELEMENT
MXMWSC	PLANS & SCHEDULING	ELEMENT
MXMWN	STRATEGIC/NUCLEAR WEAPONS	SECTION
MXMWNV	VAULT MAINTENANCE	ELEMENT
MXMWNS	SUPPORT	ELEMENT
MXMWNW	WEAPONS MAINTENANCE	ELEMENT

3.2.3. Small and Unique Organizational Structure. Some activities cannot meet typical organizational structure constructs due to limited manpower, unique mission, or operational requirements. Activities meeting all of the following criteria are authorized to follow the small and unique organizational structure outlined in **Figure 3.3**. AF/A4LW recommends organization structure codes and AF/A1MO approves them.

3.2.3.1. Criteria for a small unit organizational structure:

3.2.3.1.1. Have less than 60 (20 for Air Reserve Component host units) authorized full time personnel.

3.2.3.1.2. Aligned directly under a parent group or squadron (e.g., FWS, OSS, EMS, MXS) as a flight, section, or element.

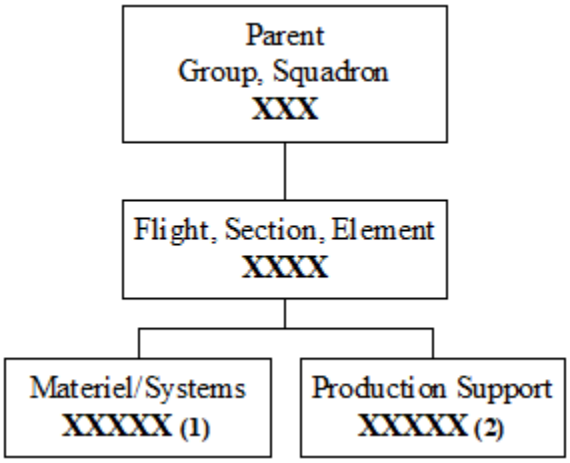
3.2.3.1.3. Provide sole support for activities on an installation or for the parent MAJCOM.

3.2.3.2. Criteria for a unique unit organizational structure:

3.2.3.2.1. Have a unique function (e.g., Air Force Research Laboratories, Flight Test Squadron, 9th Munitions Squadron).

3.2.3.2.2. Does not fall within another organizational structure noted in this instruction.

Figure 3.3. Sample Small and Unique Organizational Structure (May vary, dependent upon mission).



Optional Small and Unique Unit Criteria:
1. Materiel, Systems, and Production functions may be partially or fully integrated.
2. Production is not required; aircraft support and maintenance workload demands determine need.

3.2.4. Air Reserve Component (ARC) units. ARC units are organized differently from other Air Force units primarily due to their manning posture. The organizational structure for ARC host munitions flights supporting Missile Alert Facility (MAF) or rescue units during peacetime missions is designed to sustain minimal core munitions activities. ARC host munitions flights supporting Combat Air Force fighter/bomber units follow the munitions flight organizational structure in **Figure 3.2**.

3.2.4.1. When not mobilized or federalized, ARC Munitions Flights or Elements are staffed with Active Guard Reserve (AGR) personnel, Guard and Air Reserve technicians and civilian personnel consistent with their peacetime mission requirements and workload.

3.2.4.2. ARC units will ensure munitions personnel are trained on wartime duties and responsibilities and gained command policies and procedures to ensure a smooth transition when ARC personnel are mobilized or federalized. **(T-1).**

3.3. Missile Maintenance Squadron (MMXS). The mission of the MMXS is to maintain the immediate launch readiness of ICBMs and corresponding MAF and Launch Facility (LF). MMXSs are responsible for maintaining ICBM boosters, RS, guidance sets, security and electrical systems, coding, corrosion control, power and environmental control, and periodic inspections. **Figure 3.4** and **Table 3.3** depict the MMXS organizational structure.

3.3.1. Generation Flight. The Generation Flight generates and maintains assigned ICBM forces by removing, installing, and transporting Minuteman aerospace vehicle equipment, RS, and ICBMs. The flight performs repair and troubleshooting on electrical system, electronic, electro-mechanical, security, weapon system command, control, and communications systems. Performs coding of the ICBM.

3.3.2. Facilities Flight. The Facilities Flight performs on-site repair of ICBM LF and MAF power and environmental control systems and weapon system command, control, and communication systems. The flight accomplishes periodic maintenance inspections, corrosion

control and preventive maintenance actions, and maintains the Hardened Intersite Cable System. The flight also maintains operational readiness of systems that provide Launch Control Center and LF hardness to enable the ICBM launch crew to survive and operate through nuclear blast, shock, vibration and thermal effects.

Figure 3.4. Missile Maintenance Squadron Organizational Structure.

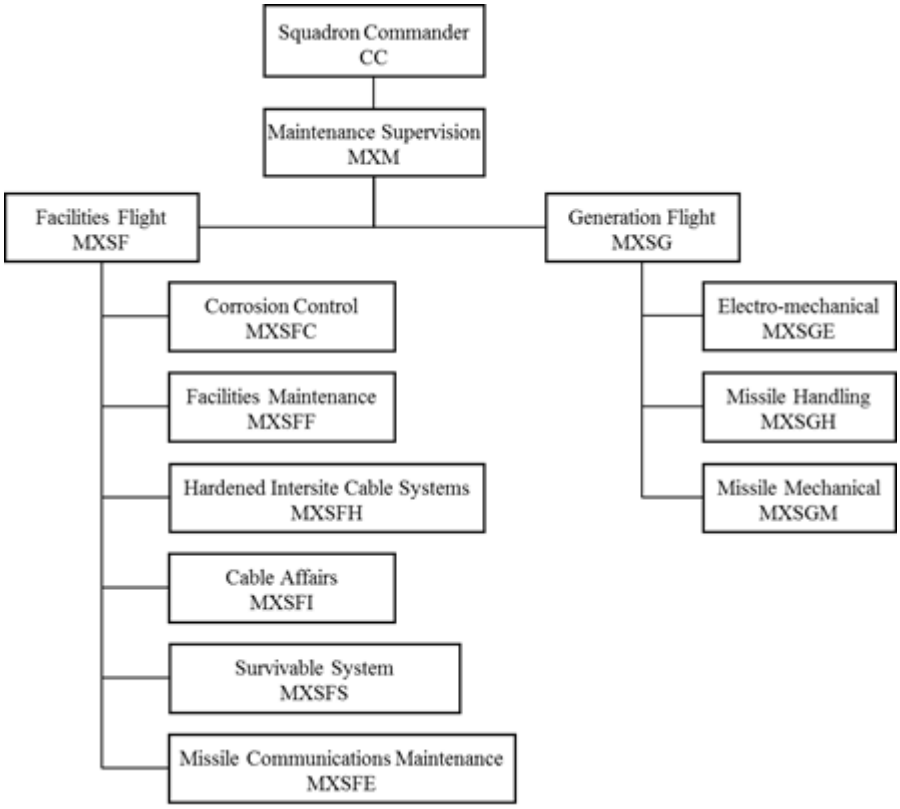


Table 3.3. Missile Maintenance Squadron.

OSC	TITLE	LEVEL
CC	COMMANDER	SQUADRON
MXM	MAINTENANCE SUPERVISION	SQUADRON
MXSG	GENERATION	FLIGHT
MXSGE	ELECTRO-MECHANICAL	SECTION
MXSGM	MISSILE MECHANICAL	SECTION
MXSGH	MISSILE HANDLING	SECTION
MXSF	FACILITIES	FLIGHT
MXSFC	CORROSION CONTROL	SECTION
MSXFF / MSXFP	FACILITIES MAINTENANCE	SECTION
MXSFH	HARDENED INTERSITE CABLE SYSTEMS	SECTION
MXSFI	CABLE AFFAIRS	SECTION
MSXFS	SURVIVABLE SYSTEM	SECTION

MXSFE	MISSILE COMMUNICATIONS MAINTENANCE	SECTION

3.4. Maintenance Squadron (MXS) (ICBM Units). Missile wing MXSs are different from those outside ICBM maintenance. The mission of the missile wing MXS is to plan, coordinate, and monitor the maintenance production effort on assigned LF, MAF, and mission support equipment. Additionally, missile wing MXSs provide off-equipment maintenance, limited on-equipment repair, tracking and management of general- and special-purpose vehicles, and mission support equipment. **Figure 3.5** and **Table 3.4** depict the missile wing MXS organizational structure.

3.4.1. Maintenance Operations Flight. The Maintenance Operations Flight maintains LF and MAF status and provides leadership with key information to assist in determining maintenance requirements and priorities. Additionally, the flight provides short- and long-range planning activities.

3.4.2. Resources Flight. The Resources Flight maintains assigned Aerospace Ground Equipment and performs off-equipment maintenance on electrical, environmental, power generation, pneumatic, and hydraulic systems associated with ICBM weapon systems. The flight centrally manages, stores, issues, inspects, and repairs ICBM support equipment, guidance systems, and special purpose vehicles.

Figure 3.5. Maintenance Squadron (MXS) Organizational Structure (ICBM Units).

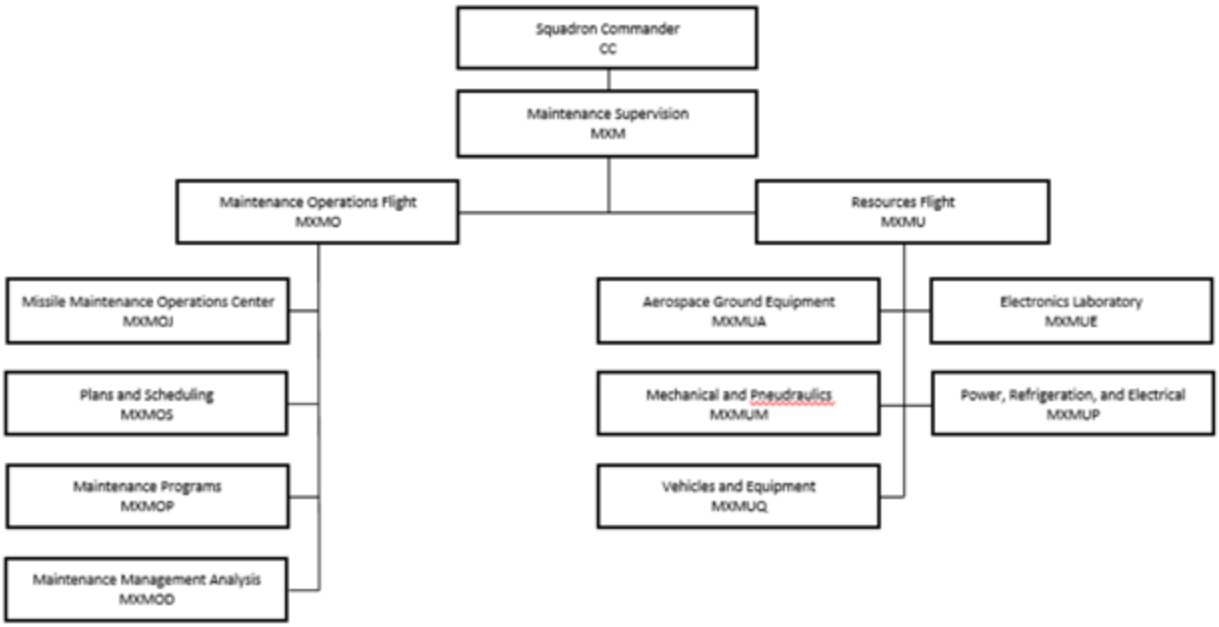


Table 3.4. Maintenance Squadron (ICBM Units).

OSC	Title	Level
CC	COMMANDER	SQUADRON
MXM	MAINTENANCE SUPERVISION	SQUADRON
MXMO	MAINTENANCE OPERATIONS FLIGHT	FLIGHT

MXMOJ	MISSILE MAINTENANCE OPERATIONS CENTER	SECTION
MXMOS	PLANS AND SCHEDULING	SECTION
MXMOP	MAINTENANCE PROGRAMS	SECTION
MXMOD	MAINTENANCE MANAGEMENT ANALYSIS	SECTION
MXMU	RESOURCES FLIGHT	FLIGHT
MXMUA	AEROSPACE GROUND EQUIPMENT	SECTION
MXMUE	ELECTRONICS LABORATORY	SECTION
MXMUM	MECHANICAL AND PNEUDRAULICS	SECTION
MXMUP	POWER, REFRIGERATION, AND ELECTRICAL	SECTION
MXMUQ	VEHICLES AND EQUIPMENT SECTION	SECTION

3.5. Munitions Support Squadron (MUNSS). Munitions Support Squadrons are Geographically Separated Units responsible for receipt, storage, maintenance, and control of United States (US) nuclear weapons in support of the North Atlantic Treaty Organization (NATO) and its strike mission. A MUNSS consists of a Commander's Support Staff and five flights that are operationally controlled by MUNSS Supervision. **Figure 3.6** and **Table 3.5** depict the MUNSS organizational structure. MUNSS units report directly to the 52d Munitions Maintenance Group located at Spangdahlem Air Base, Germany.

3.5.1. Commander's Support Staff. The Commander's Support Staff is comprised of the First Sergeant, Weapons Safety, Quality Assurance, Personnel Reliability Program Monitor, Unit Training Manager, School Liaison Officer, Unit Translator, and the Housing Referral Office.

3.5.2. MUNSS Supervision. MUNSS Supervision, led by the Operations Officer, is responsible for overall resource management of all functional areas to accomplish the unit's NATO support mission. The MUNSS Superintendent supports the MUNSS Operations Officer in the execution of these duties.

3.5.3. Mission Support Flight. The Mission Support Flight is comprised of the Orderly Room, Finance, Medical Aid Station, Services, and the Community Support Center.

3.5.4. Communications Flight. The Communications Flight is comprised of the Network Control Center, Communications Security, Communications Maintenance, Post Office, and Knowledge Operations Office.

3.5.5. Operations Flight. The Operations Flight is comprised of an Offiver in Charge (OIC), Superintendent, and Emergency Action Controllers. The flight operates the Command Post providing 24/7 coverage.

3.5.6. Maintenance Flight. The Maintenance Flight is comprised of Munitions Operations, Weapons Maintenance, Weapons Load Monitors, and Unit Supply Sections.

3.5.7. Custody Flight. The Custody Flight maintains custody of US nuclear weapons and provides limited law enforcement support.

Figure 3.6. Munitions Support Squadron Organizational Structure.

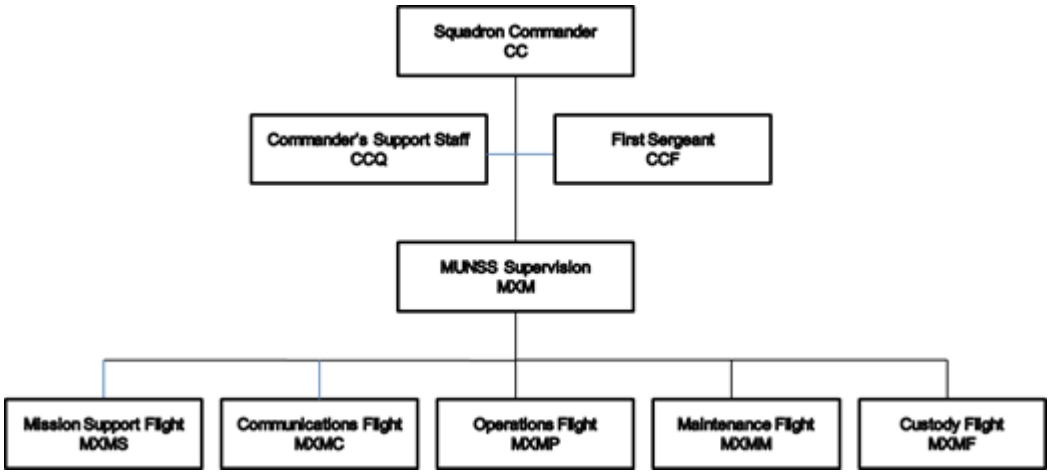


Table 3.5. Munitions Support Squadron.

OSC	TITLE	LEVEL
CC	COMMANDER	SQUADRON
MXM	MUNS/MAINTENANCE SUPERVISION	SQUADRON
MXMS	MISSION SUPPORT FLIGHT	FLIGHT
MXMC	COMMUNICATIONS FLIGHT	FLIGHT
MXMP	OPERATIONS FLIGHT	FLIGHT
MXMM	MAINTENANCE FLIGHT	FLIGHT
MXMF	CUSTODY FLIGHT	FLIGHT

3.6. Air Force Combat Ammunition Center (AFCOMAC) (9 MUNS). The primary mission of AFCOMAC is to train munitions technicians, supervisors, managers, and company grade officers in combat munitions planning and mass munitions production techniques and to orient senior officers on combat munitions planning. Their mission is inclusive of munitions support to the 9th Reconnaissance Wing and Munitions Materiel Handling Equipment durability testing and validation. AFCOMAC provides subject matter expertise to the 561st Joint Tactics Squadron in the development of combat munitions tactical doctrine.

3.7. Standardized Duty Titles for 2M and 2W Personnel. Standardized duty titles reflect comparable levels of responsibility for personnel across units regardless of size or organizational differences. Use of standardized duty titles by all units is mandatory. Duty titles are maintained on the AF/A4LW SharePoint ® environment at **https://usaf.dps.mil/teams/11262/HAF/HAF-A4LW/Standardized%20Duty%20Titles/Forms/AllItems.aspx**

Chapter 4

PLANS AND SCHEDULING

4.1. Plans & Scheduling (P&S). P&S serves as the single point of contact for developing, coordinating, publishing, and distributing maintenance schedules. P&S is responsible for creating plans, forecasts, and schedules for the maintenance of live, inert, and dummy munitions, nuclear weapons, ICBM maintenance, non-powered munitions support equipment, handling equipment, and facility inspection requirements. Additionally, P&S tracks work order completion and maintenance actions awaiting maintenance or parts, manages Delayed Discrepancy Listing/workload requirements file, and Time Compliance Technical Order (TCTO) programs and assigns priorities in the event of scheduling conflicts (P&S functions may be decentralized as determined by Munitions/Maintenance Supervision). P&S will:

4.1.1. Serve as focal point to the supported wing Plans, Scheduling, and Documentation (PS&D) administered program. **(T-3).**

4.1.2. Serve as the primary point of contact for the daily production meeting (daily production meeting is mandatory for nuclear/ICBM/optional for conventional). At a minimum, the following items will be covered during the meeting: Trained/qualified/certified personnel availability, safety equipment, vehicle, test and handling equipment availability and serviceability, supply and spares availability, and status of previous day's maintenance activities that may impact upcoming activities.

4.1.3. In MUNS/MUNSS, assign local identification numbers as required for end items according to 00-20 series T.O.s and update the master identification listing for specific functions. **(T-2).** The Maintenance Management Analysis (MMA) section will perform this function for ICBM squadrons. **(T-2).**

4.1.4. In MUNS/MUNSS, maintain the Delay Discrepancy Listing/workload requirements for munitions specific scheduling purposes. **(T-2).** MMA will perform this function for ICBM squadrons. **(T-2).**

4.1.5. Plan, schedule, and coordinate TCTO; Master Change Log (MCL); and modification, retrofit, and alteration requirements in accordance with T.O. 00-5-15, *Air Force Time Compliance Technical Order Process,* and T.O. 00-20-2, *Maintenance Data Documentation*. **(T-2).**

4.1.5.1. Coordinate with QA for review of all TCTOs, MCL, modifications, retrofits, and alterations. **(T-2).**

4.1.5.2. Coordinate with Missile Engineering to schedule MCL as required. **(T-2).**

4.1.5.3. Coordinate applicable TCTO requirements with Munitions Operations, Materiel Control, Logistics Readiness Squadron representative, and other supporting organizations, as applicable. **(T-2).**

4.1.5.4. Notify the AFGSC Nuclear Stockpile Division on completion of retrofit per T.O. 11N-40-1, *Field Modernization and Retrofit Orders.* **(T-2).**

4.1.6. Assign a Job Control Number and initiate work orders through a Maintenance information System for scheduled maintenance tasks. **(T-2).**

4.1.6.1. **(Nuclear)** For nuclear weapons and components use Integrated Maintenance Data System (IMDS) to direct maintenance and handling by documenting serial numbers in the Work Center Event (WCE) narrative or discrepancy section. **(T-1).** The use of support general Work Unit Codes (WUC), as required, is authorized for weapon specific handling and maintenance sections. **(T-1)**

4.1.6.2. Munitions Control, MMOC, or P&S will issue job control numbers for all unscheduled tasks. **(T-3).**

4.1.6.3. Line numbers from T.O. 11N-20-11 will not be used to schedule maintenance activities. **(T-2).**

4.1.6.4. Munitions Control, MMOC, or P&S will develop a manual work order system (e.g., blocks of job control numbers, logs) for backup during interrupted Maintenance Information System service. **(T-3).**

4.1.7. Maintain a quarterly rolling forecast and a weekly schedule to manage workload against available resources. **(T-1).**

4.1.7.1. Ensure tenants inside the MSA, WSA, Vault Storage Area, and organizations that perform major activities within these areas provide the Munitions Squadron/Flight with a current activity schedule. **(T-2).** MUNSSs work with host nation to obtain activity schedule. Schedule will describe planned events for a minimum of 30 days out that affect munitions safety or operations. **(T-2).**

4.1.7.2. Include all known operational events to determine maintenance capability to meet operational needs. **(T-2).** P&S uses predictable maintenance factors based on historical data, along with other inputs such as flow times for maintenance, turn-around times, and part replacement schedules, to develop maintenance forecasts and schedules. Forecasts and schedules may be published via electronic means provided operational security is maintained.

4.1.7.3. Rolling forecasts are updated monthly and refined by developing weekly maintenance schedules. Munitions/Maintenance Supervision will approve the weekly schedule before the upcoming work week. **(T-3).** Weekly scheduling meeting should be held at the direction of Munitions/Maintenance Supervision. The schedule will identify daily tasks and activities and will relay work by calendar day/time. The schedule should be used to identify training opportunities (e.g., if conventional maintenance has a bomb build scheduled, other shops should use this as a training opportunity).

4.1.7.3.1. Once the weekly schedule is approved, it becomes the planning guide for maintenance and the basis for deviation reporting. P&S will include nuclear weapons maintenance schedules in the supported maintenance plan. **(T-1).**

4.1.7.3.2. Changes to the approved weekly schedule which add or remove nuclear weapons operations require an AF 2407, *Weekly/Daily Flying Schedule Coordination* (or equivalent). **(T-1).**

4.1.7.3.2.1. Additions and removals of nuclear weapons operations (e.g., maintenance, mate/demate, and handling tasks) are subject to source document verification as defined in AFMAN 21-204.

4.1.7.3.2.2. Minor schedule adjustments related to nuclear operation(s) do not

require an AF Form 2407, *Weekly/Daily Flying Schedule Coordination*, so long as the changes do not affect outside organizations and the activity is executed within the established weekly schedule. Additionally, AF Form 2407s are not required during the execution of Combatant Command Operation Plans (e.g. nuclear sortie generation).

4.1.7.3.2.3. The organization requesting the change to the weekly schedule initiates the AF 2407, *Weekly/Daily Flying Schedule Coordination* (or equivalent), and coordinates it through all affected organizations. At a minimum, Munitions/Maintenance Supervision approves any change to the weekly schedule. **(T-3).**

4.1.8. Ensure the quarterly rolling forecast and weekly schedules include, as applicable:

4.1.8.1. Maintenance, periodic inspection, TCTO, and inventory requirements.

4.1.8.1.1. Schedulers will list conventional munitions periodic inspections by item, lot or serial number and quantity of each item scheduled. **(T-3).**

4.1.8.1.2. Periodic inspection and maintenance actions for inert and dummy training items assigned to custody accounts when required by specific item T.O.

4.1.8.1.3. Munitions monthly, quarterly, and semi-annual inventories.

4.1.8.1.4. TCTO status, including number of assets affects, number of assets completed, and estimated completion.

4.1.8.1.5. Projected manning status.

4.1.8.2. Munitions requested to support aircrew training and aircraft flying schedule requirements.

4.1.8.3. Job Control Number and status of munitions awaiting maintenance (AWM)/awaiting parts (AWP), including document number and status for parts on order.

4.1.8.4. Due-in from Maintenance (DIFM) status to include the date the item was issued for installation and the date the return item is due. Overdue DIFM items will be reported to the MXG/CC. **(T-1).**

4.1.8.5. Equipment maintenance and inspections, including mobility equipment.

4.1.8.6. Hazardous waste disposal equipment inspections and maintenance.

4.1.8.7. Munitions allocations status and supportability. For conventional munitions, review status of War Reserve Materiel, training allocations, and available munitions levels.

4.1.8.7.1. Status of actions taken for each approved Ammunition Disposition Request, including disposition request number, quantity, nomenclature, document number of A5J/shipment, and the scheduled date of disposal/shipment.

4.1.8.7.2. Outstanding documents which have exceeded timelines at an operational node per the local Document Flow Operational Instruction.

4.1.8.7.3. Status of in-transit munitions.

4.1.8.8. Training, special activities, higher headquarters directed missions, and exercises.

4.1.8.9. Civil Engineering, fire department, and Security Forces requirements which require access to squadron facilities or impact operations.

4.1.8.10. Special purpose vehicle/equipment turn-ins/pick-ups.

4.1.8.11. Status of infrastructure, including facility status/workorders, lightning protection/facility ground inspections, igloo depth checks.

4.1.9. P&S will maintain the following records and documentation:

4.1.9.1. TCTO status to include:

4.1.9.1.1. TCTO number. **(T-2).**

4.1.9.1.2. Number of affected items. **(T-2).**

4.1.9.1.3. Number of TCTO kits ordered (quantities, document numbers, and status). **(T-2).**

4.1.9.1.4. Number of TCTO kits received (quantity and date). **(T-2).**

4.1.9.1.5. Number completed. **(T-2).**

4.1.9.1.6. Number not completed. **(T-2).**

4.1.9.1.7. Rescission date. **(T-2).**

4.1.9.1.8. Lot/Serial Number. **(T-2).**

4.1.9.1.9. Ground removal date. **(T-2).**

4.1.9.2. Current master identification listing from Maintenance Information System. (**T-2).** This may be kept digitally.

4.1.9.3. Fire Drills for explosives areas per Defense Explosive Safety Regulation (DESR) 6055.09_AFMAN 91-201, *Explosives Safety Standards*, excluding launch facilities. (T-1).

4.1.9.4. Status of all INTRANSIT assets in TICMS originating from (Outbound) or destined to (Inbound) the local Funds Verification DoDAAC. Include transportation control number, date departed origin, and follow-up or tracer actions with transportation unit to address any problems or delays. **(T-2).**

4.1.9.5. The most current lightning protection system, static ground systems, and static grounded worktables inspections and ohms test results for possessed munitions/weapons/vault/ underground storage areas. **(T-1).** Testing and visual inspection will be performed at intervals according to DESR 6055.09_AFMAN 91-201 and AFMAN 32-1065, *Grounding & Electrical Systems.* Notify wing weapons safety when deficiencies or discrepancies exist involving lightning protection or static ground systems for risk assessment code application.

4.1.10. Ensure proper processing for Aerospace Vehicle Distribution Officer requirements as defined in AFI 21-103, *Equipment Inventory, Status And Utilization Reporting*, for all assigned assets. **(T-0).**

Chapter 5

MUNITIONS CONTROL

5.1. Munitions Control. Munitions Control is the focal point for planning, coordinating, directing, and controlling munitions/weapons activities. Munitions Control coordinates with munitions, weapons, flightline, ICBM maintenance activities, security forces, fire department, and command post to ensure effective flow of information, scheduling, and use of available resources to accomplish the mission. Munitions Control personnel must have a working knowledge of all munitions functional areas, adapt well to stress, and speak in a clear and concise manner. **(T-3).**

5.2. Facilities and Communications.

5.2.1. Units will locate, equip, and arrange Munitions Control to ease the collection, recording, and dissemination of information essential for command, control, and communications. **(T-2).**

5.2.2. Facilities must meet the minimum security standards commensurate with the information being maintained and stored. **(T-0).** Small and unique units with limited facilities are exempt from the structure requirements in this chapter, however, every attempt should be made to meet requirements.

5.2.3. Room(s) are to be completely enclosed, air conditioned, and heated. Depending on location and mission, walls, ceilings, and floors may require covering with acoustical material to reduce noise levels.

5.2.4. Doors are to be of solid wood or metal faced construction with a peephole or other suitable method to identify personnel before granting entry. Doors are to be locked with mechanical or electrical locks (e.g., cipher locks) to control access.

5.2.5. Standby power and emergency lighting are required. Units unable to comply with this requirement will establish a local plan to ensure control room activities are not impacted by loss of power. **(T-2).** An uninterrupted power supply does not satisfy this requirement.

5.2.6. Units must obtain sufficient Land Mobile Radio nets to meet operational needs. **(T-2).** Two dedicated Land Mobile Radio nets may be necessary when operational requirements impose a need for heavy radio communications.

5.2.7. Units must maintain secure voice communication capability (e.g., Secure Telephone, Voice over Secure Internet Protocol). **(T-1).** Provide the phone numbers to the applicable MAJCOM. **(T-2).** Small and unique units may use another units capability as required.

5.2.8. Units must establish NIPRNET/SIPRNET capability within Munitions Control and immediately address any loss of capability. **(T-2).** Internet connectivity for munitions support is not optional; it is critical to the war-fighting effort and required at each operating location.

5.2.8.1. **(Nuclear Only)** SIPRNET must be capable of reading from/recording to applicable removable media for the download of classified software, as required, in accordance with T.O. 00-5-1-W-1.

5.2.8.2. Units will provide SIPRNET information to the applicable MAJCOM. **(T-2).**

5.2.9. Units will establish procedures for two methods of emergency notification to Security Forces and Fire Department. **(T-1).** Units must be capable of immediately contacting the following agencies in case of emergencies:

5.2.9.1. Base Defense Operations Center (or equivalent). **(T-1).**

5.2.9.2. Law Enforcement (or equivalent). **(T-1).**

5.2.9.3. MSA/WSA Entry Control Point (as applicable). **(T-1).**

5.2.9.4. EOD. **(T-1).**

5.2.9.5. Base Fire Department. **(T-1).**

5.2.9.6. Command Post. **(T-1).**

5.2.9.7. Applicable Operations Centers (e.g., Wing Operations Center, Maintenance Operations Center (MOC), MMOC).

5.2.9.8. Munitions workcenters not collocated with Munitions Control.

5.3. Responsibilities. Munitions Control will:

5.3.1. Direct, coordinate, and monitor ongoing scheduled and non-scheduled munitions and weapons maintenance activities. **(T-2).**

5.3.2. Provide supervisors and managers timely information on the status of all explosives operations, emergencies, and contingency actions. **(T-2).**

5.3.3. Collect information, make proper notifications, and direct/oversee actions to be taken in response to all emergencies, contingency actions, work stoppages, manning, and equipment shortfalls. **(T-1).**

5.3.4. Develop, maintain, and use quick reference checklists as outlined in **paragraph 3.5.1**. **(T-1).**

5.3.4.1. **(Nuclear units)** Maintain the following Emergency Action Checklists: Safeguard Transport/Prime Nuclear Airlift Force support, logistics movement, convoy emergency, safe haven, recapture, denial, Stockpile Emergency Verification (SEV)/SEV test, and emergency evacuation and disablement (as applicable). **(T-1).**

5.3.4.2. Use unit operational guides and MAJCOM (if applicable) Emergency Action File as a guide to develop checklists. **(T-2).**

5.3.4.3. Develop and integrate Emergency Action Checklists with the MOC/MMOC where applicable to ensure efficient use of communication and notification systems. **(T-3).**

5.3.5. Ensure the following notifications are made, as soon as they are reported:

5.3.5.1. Notify Munitions/Maintenance Supervision of any situation that may warrant submission of a Nuclear Weapon System Mishap/Safety Deficiency Report per AFI 91-204, *Safety Investigation and Reports*, AFMAN 91-221, *Weapons Safety Investigations and Reports*, and T.O. 11N-5-1, *Unsatisfactory Reports*. **(T-1).**

5.3.5.2. Notify Security Forces of weapons movements or re-warehousing affecting the security status, classification, or risk category of storage or maintenance facilities. **(T-3).**

Notifications will be documented in AFMC2, NMC2 **(nuclear units)**, or other system as approved by the installation commander. **(T-3).**

5.3.5.3. Notify the Fire Department of any hazard class division 1.1 explosives movements outside the storage area or changes in munitions storage and maintenance facilities contents affecting fire symbols, hazard symbols, or T.O. 11N-20-11, *General Firefighting Guidance*, line numbers **(nuclear units)**. **(T-1)**. Munitions Control tracks line numbers at each facility and all notifications are to be documented in AFMC2 or NMC2 **(nuclear units)** or other system as approved by the installation commander.

5.3.5.3.1. Immediate T.O. 11N-20-11 line number updates will be provided to the fire department only when a primary hazard changes at storage or operating locations. Additionally, introduction of any new weapon type will also be called in as they occur even if of a lesser hazard. All other line number updates will be called in to Control at the beginning and end of each shift. **(T-1)**

5.3.5.4. Notify supporting activities before starting hazardous operations or training exercises, such as chemical operations, fire drills, evacuation drills, or emergency destruction of munitions exercises. **(T-2).**

5.3.5.5. Notify all munitions activities and dispatched crews when situations arise that would prevent them from safely completing their task (e.g., lightning, security incident, accident). **(T-1).** Update dispatched personnel at evacuation points as necessary. **(T-2).** Immediately report any missing or unaccounted for personnel to the command post. **(T-1).**

5.3.5.6. Notify flight leadership and Munitions/Maintenance Supervision of problem areas that could have a negative impact on the mission. **(T-3).**

5.3.6. Manage keys and locks or modules to assigned storage and maintenance facilities. **(T-3).** Munitions/Maintenance Supervision may delegate management of this/these program(s) to a different office if Munitions Control is not collocated in the storage area. When delegated, overall program responsibility is also delegated. Refer to **Chapter 6** for specific program requirements.

5.3.7. **(Non-Nuclear)** Process TICMS transactions. All non-nuclear controllers shall be able to process movement and expenditure transactions in accordance with DAFMAN 21-201 and the Air Force Munitions Accountability Procedures Guide. **(T-3).**

5.3.8. Maintain work order status of each explosives operation, to include description of operation, location, crew size, and status (e.g., in-progress, on-hold, closed). **(T-3).**

5.3.9. Maintain map(s) showing the entire storage area, primary and alternate explosives routes, and sited explosives locations outside the storage area (e.g., aircraft parking locations, hot cargo pads, railheads, munitions holding areas). **(T-3).** Receive and/or validate maps, explosives routes, and explosives locations through Wing Safety as changes occur, and at least annually. **(T-3).**

5.3.9.1. Ensure authorized explosive limits are reconciled between source documents (explosives site plans, approved waivers, facility licenses, etc.), TICMS facility data, and posted information (Hazard Class/Division, Maximum Credible Event, Net Explosive

Weight limits, etc.) in each munitions storage facility and operating location, as applicable. **(T-1).**

5.3.10. Maintain copies of war and contingency plan annexes and appendixes as well as flow plans in support of in-place or deployment contingencies which directly task the munitions activity. **(T-3).**

5.3.11. Maintain current copies of the AAAL or equivalent, Change Letters, and applicable Entry Authorization Lists. **(T-3).**

5.3.12. Maintain results of Civil Engineering inspections and tests of real property installed equipment (e.g., hoist). **(T-3).**

5.3.13. Maintain storage and maintenance facility status (e.g., functional alarms, Lightning Protection System); identify deficiencies that prevent use of each facility. **(T-3).** Maintain copies of work requests (not applicable to non-US NATO bases). **(T-3).**

5.3.14. Support conventional operations in accordance with DAFMAN 21-201.

5.3.15. Accomplish the following in support nuclear operations:

5.3.15.1. Verify nuclear weapon, RS, and/or launch gear match mission requirements (aircraft Fragmented Order, ICBM configuration, WSEP configuration, etc.) prior to any weapon movement. **(T-1).**

5.3.15.2. Verify work orders are valid against the approved schedule and Maintenance Information System when sections call to open work orders. **(T-3).**

5.3.15.3. Verify individuals are authorized via AAAL to accomplish pre-notification call-ins. **(T-1).**

5.3.15.4. Ensure inventory/status updates are received when changes occur for each storage structure, maintenance facility, or vault. Controller will validate inventory and document names of provider. **(T-1).**

5.3.16. Update the following systems with the identified information as changes occur. **(T-3)**. Units will not use locally developed databases: **(T-2).**

5.3.16.1. **AFMC2/NMC2 .** All units will utilize the mandatory fields (* items) identified in SharePoint ®. **(T-2).** Each MAJCOM is authorized to make changes to AFMC2 or NMC2 content to meet specific needs, including mandatory fields.

5.3.16.2. TICMS (or other AF approved system) shall be used to manage Net Explosive Weight (NEW) and NEW Quantity Distance (NEWQD). Munitions Control may use AFMC2/NMC2 or manual processes to manage NEWQD at explosive storage or operating locations when TICMS (or other AF approved system) is unavailable due to lack of connectivity or power. **(T-2).** Refer to DESR 6055.09_AFMAN 91-201 for determining the explosive content and quantities for explosives storage and operating locations.

5.3.16.2.1. Update facility data information, including authorized hazard division and NEW, when data changes. Periodically update this information with source data, not to exceed an annual interval. **(T-1).**

5.3.16.2.2. Munitions Control will track conventional munitions, tactical missiles, and type trainers per DAFMAN 21-201. **(T-3).**

5.3.16.3. Munitions Control will track nuclear weapon package configuration in accordance with nuclear weapon configuration record (build-up sheet) procedures in AFMAN 21-204. **(T-1).**

Chapter 6

MUNITIONS KEY AND LOCK MANAGEMENT

6.1. General.

6.1.1. Security of and controlling access to munitions storage and maintenance facilities helps guarantee physical inventory control and accountability of munitions. These procedures apply to government-owned facilities including those operated by contractors.

6.1.2. Munitions and Maintenance Supervisors, Key and Lock Custodians, Key Authorities and unit personnel will protect keys and locks used to secure classified munitions with a classification at least equal to the classification of the items being secured. **(T-0).** Master keying is prohibited. **(T-0).** Keys will not be duplicated. **(T-1).**

6.1.2.1. In accordance with DAFI 31-101, in the event of lost, misplaced or stolen keys, the affected locks or cylinders must be replaced immediately. The facility must be inventoried and guarded by owner/user personnel until the area can be properly secured.

6.1.3. Personnel will ensure keys and locks to conventional munitions storage and maintenance facilities will be controlled and secured in accordance with DoDM 5100.76, DAFI 31-101, and the procedures in this chapter. An individual authorized to issue keys will not issue key(s) to themselves unless responding to emergencies or during non-duty hour stand-by response where limited personnel availability necessitates such action. **(T-0).**

6.1.4. Personnel will ensure keys and locks to nuclear weapons storage and maintenance facilities are controlled per DoD S-5210.41-M_AFMAN31-108V1-S, *(S) The Air Force Nuclear Weapon Security Manual (U)* and the procedures in this chapter. **(T-0).** Nuclear structure and nuclear maintenance facility keys are controlled as SECRET in accordance with DoD S-5210.41-M_AFMAN31-108V1-S. Units must ensure no one individual is given both combinations to key(s) or container(s), or has physical possession of both keys at one time. **(T-0).**

6.1.5. Cell unlock devices and Protective Aircraft Shelter keys that house weapon storage vaults do not fall under the high security key and lock management program. Additionally, USAFE units maintaining the Weapons Storage and Security System will follow MAJCOM guidance for code module access procedures. **(T-2).**

6.1.5.1. DELETED.

6.1.6. Personnel will ensure rooms where keys and locks are stored will be secured during non-duty hours. **(T-0).** Units will ensure access to the room is restricted to authorized personnel. **(T-0).**

6.1.6.1. Units will keep keys and locks to nuclear weapons storage and maintenance facilities in any 24-hour manned or alarmed container, room, or facility within the limited area during non-duty hours. **(T-3).**

6.1.6.2. If stored in security facilities, units will not give the combinations to or assign Security Forces key responsibilities. **(T-1).** Key containers belong to and are controlled by the munitions activity.

6.1.7. Units will store primary keys separate from spare/control (maintenance) keys. **(T-0).**

6.1.7.1. Keys and locks may be stored within the same safe as long as they are stored in separate drawers.

6.1.7.2. Both primary and spare keys may be issued when required to support daily operations. Monitor this practice closely to identify adverse key control trends.

6.1.8. Units will ensure keys to conventional munitions facilities are not stored in the same key box as the keys to nuclear weapons facilities. **(T-0).** This restriction does not preclude a conventional munitions facility key box from being stored in the same safe as the nuclear weapons facility key box.

6.1.9. Personnel authorized to receive or issue keys must maintain constant surveillance of all keys removed from their storage container to preclude unauthorized access or duplication. **(T-1).** For Example: Keys will not be taken to lunch, home, etc.

6.1.10. External Locking Devices. Locks and cylinders are received with a control key (for lock maintenance) and two non-control keys. Personnel will designate one non-control key as primary and the remaining non-control key as a spare. **(T-1).** Control keys may be issued as spare keys in the event that a non-control key becomes unserviceable, but will remain designated as control keys in case of damage. Units will maintain a minimum of two serviceable keys for each lock or cylinder. **(T-1).**

6.1.10.1. If the primary or spare key is broken and all pieces of the broken key are recovered, personnel must destroy the broken key pieces. **(T-1).** Personnel will annotate the AF 2427, *Lock and Key Control Register*, indicating that two keys remain for that cylinder. **(T-2).** If all pieces cannot be recovered, personnel will remove remaining keys and cylinders from service and dispose of accordingly. **(T-1).** Broken or damaged control keys require replacement of the cylinder.

6.1.10.1.1. Unserviceable high-security padlocks, keys, and cylinders are to be controlled until properly destroyed or sent to the DoD Lock Program for disposal. Contact the DoD Lock and Hasp Program Technical Support Hotline at (800) 290-7607, DSN 551-1212 or via the Internet at **https://portal.navfac.navy.mil/go/locks** for proper demilitarization and disposal or ship to:

DoD Lock Program (HSPS)
1100 23rd Avenue
Port Hueneme, CA 93043-4370

6.1.10.1.2. For Additional information, newsletters and instructions to ship or order replacement high security locks, cylinders, and hasps, use the DoD Lock Program website at:

www.navfac.navy.mil/go/locks.

6.1.10.2. Physically retain the padlock, or lock it to the hasp when the entry gate, munitions structure, or key container is open to prevent theft or substitution of the key, cylinder, or lock. **(T-1).**

6.1.11. Internal Locking Devices (ILD). Units having the ILD on igloo doors only receive two keys. One key will be designated as the primary key while the other will be designated as the spare key. If either one of these keys is broken or damaged beyond use, personnel will remove the cylinder and replace with another operating cylinder that has two keys associated

with it. **(T-0).** Personnel will annotate changes on an AF 2427, *Lock and Key Control Register*. **(T-1).**

6.1.11.1. Appointed Key and Lock custodians for ILDs will have a letter on file with the Naval Facilities Engineering Service Center, Port Hueneme, California, 93043-4370 (DSN 551-1212), designating them as having ordering authority for keys and cylinders for their facilities.

6.1.11.2. For ILD field support refer to **paragraph 6.1.10.1.1**.

6.1.12. Personnel will replace cylinders of compromised keys (e.g., lost, found in the possession of an unauthorized individual, or high security keys or cylinders are discovered to have been removed from the limited area). **(T-0).** Personnel will never use compromised keys or cylinders to secure munitions storage structures or facilities. **(T-0).**

6.1.13. Units may establish reserve stocks of locks and cylinders to support preventative maintenance, scheduled rotation, or replacement. Personnel will control reserve locks and cylinders in a safe, metal box, or similar container protected by a GSA-approved 3-position combination lock as required by the program the locks/cylinders are expected to support. **(T-0).** Personnel will inventory reserve cylinders and keys prior to locking the storage container and during the key and lock audit. **(T-0).**

6.1.14. Units will upgrade locks and hasps as required to meet the minimum penetration delay requirements set forth in DoDM 5100.76, DoD S-5210.41-M_AFMAN31-108V1-S, and MIL HBDK 1013-1/A. **(T-0).**

6.2. Responsibilities .

6.2.1. Installation Commander will:

6.2.1.1. Appoint a primary and alternate key and lock custodian to manage custody and handling of keys and locks used to secure nuclear and munitions maintenance and storage facilities. **(T-0)**. The Installation Commander may delegate this in writing to a Group Commander responsible for storage facilities. The appointing authority will have a security clearance equal to or greater than the items being secured by the keys and locks. **(T-0).**

6.2.1.2. Key and lock custodians will have a security clearance equal to or greater than the items being secured by the keys and locks. **(T-0).**

6.2.1.2.1. **(Non-nuclear)** Key and lock custodians will not have unaccompanied access to the munitions storage facilities for which they are key and lock custodians. **(T-0). Note:** Unescorted access to the munitions facilities is controlled by the key authorization letter, e.g., the key and lock custodian does not have unescorted access to the munitions facilities because he or she is not authorized to receive keys.

6.2.1.3. **(Nuclear)** Key and lock custodians and key issuing authorities may have unescorted access to the munitions storage facilities for which they are key and lock custodians and key issuing authorities provided they are properly appointed. **(T-1).**

6.2.2. The Group Commander (or equivalent) in the munitions organization’s chain of command will:

6.2.2.1. Establish a key and lock program for munitions facilities. **(T-0)**. Ensure the program meets all the requirements in DoDM5200.01V3_AFMAN 16-1404, Volume 3, *Information Security Program: Protection of Classified Information.*

6.2.2.2. Establish a key and lock program for non-munitions facilities where nuclear weapon TYPE 3 A/B/C trainers are stored. **(T-1).** Units having both munitions and non-munitions facilities may utilize one program but the most stringent requirements must be in place. Ensure program meets all the requirements in DoDM 5200.01V3_AFMAN 16-1404, Volume 3.

6.2.2.3. Ensure keys and cylinders are audited and documented with each change of key and lock custodian. **(T-0).**

6.2.3. Munitions/Maintenance Supervision will:

6.2.3.1. Determine munitions elements to control (e.g., issue, receive) keys, cylinders, and locks**.** Develop written procedures specifying responsibilities, ensuring all requirements of applicable directives are met. **(T-1).**

6.2.3.2. **(Non-Nuclear)** Authorize personnel to issue and receive keys essential to perform assigned duties in writing. **(T-1).** The key issuing authority maintains the documentation. Personnel authorized to issue keys may also be authorized to receive keys from another key issuing authority.

6.2.3.2.1. Sign the automated listing or letter authorizing individuals to sign for keys to conventional munitions maintenance and storage facilities **(T-1).**

6.2.3.2.1.1. The list will include full name, enlisted/officer/civilian, and security clearance. **(T-1).**

6.2.3.2.1.2. Not allow pen and ink additions. **(T-1).** Pen and ink deletions are authorized.

6.2.3.2.1.3. Ensure the authorization letter is marked "FOUO." **(T-1).**

6.2.3.3. **(Nuclear)** Ensure access to keys for nuclear maintenance and storage facilities are controlled using the AAAL in accordance with **Chapter 8**.

6.2.3.4. Develop a key and lock control training program in accordance with DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*. **(T-0).**

6.2.4. Key and Lock Custodians will:

6.2.4.1. Ensure compliance with key, lock, and hasp security requirements for munitions maintenance and storage facilities contained in these procedures and applicable procedures in DoDM 5100.76 and DoD S-5210.41-M_AFMAN 31-108V1-S. **(T-0).**

6.2.4.2. Order replacement cylinders in accordance with T.O. 44H2-3-1-101, *Operation and Maintenance Instruction, High, Medium, Low Security Hardware*. **(T-0).**

6.2.4.3. If desired, units may maintain manufacturer's serial number if present. If serial number is not present or unit does not wish to maintain manufacturer's serial number, engrave/stamp local serial number onto keys of high security padlocks. **(T-1).** Annotate serial number on the AF 2427, *Lock and Key Control Register* (do not record

manufacturer's serial number) and destroy the manufacturer's tag. Do not engrave or stamp serial number on cylinders or lock bodies. If manufacturer's serial number is present on packaging material (e.g., box), either obliterate serial number or destroy packaging material. **Exception:** Units having ILDs will use the manufacturer's assigned serial numbers and may not obliterate the numbers on the keys or lock cylinders. These numbers are needed to order replacement keys. At no time can there ever be more than two keys available for each ILD lock cylinder.

6.2.4.4. Brief responsibilities to personnel who perform key and lock audits.

6.2.4.5. Document keys and cylinders removed from Key Control Program. **(T-2)**. This is accomplished by placing a single inked line through columns 1 through 4 of the entry to be deleted on the AF Form 2427, *Lock and Key Control Register* and enter the date removed from program in block 2.

6.2.4.6. Ensure all keys are inventoried, with the exception of reserve stocks of locks and cylinders as stated in **paragraph 6.1.13**, by serial number by agency controlling access to the keys, at the end of every shift during which keys were issued, or weekly if keys were not issued. **(T-1).** Inventory key containers sealed with railroad seals or similarly coded devices by verifying seal integrity and seal serial numbers. Ensure seal numbers are annotated on the AF 2432, *Key Issue Log*.

6.2.4.6.1. Units responsible for keys and locks at remote sites are only required to perform these inventories when at those sites. Key issuing authorities will:

6.2.4.6.1.1. Conduct a key inventory upon arrival and before any keys are issued. **(T-1).**

6.2.4.6.1.2. While at the remote sites, accomplish inventories at the end of each shift, if issued, and before departing the site. **(T-1).**

6.2.4.7. Ensure locks securing nuclear weapons maintenance and storage facilities are rotated annually (units having ILDs are exempt from this requirement). **(T-1).** Document the annual lock rotation on existing AF 2427, *Lock and Key Control Register* or initiate a new one and dispose of the old one per DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*.

6.2.4.8. Ensure locks and hasps are inspected and lubricated at least every 6 months. **(T-2).** Perform only maintenance actions listed in T.O. 44H2-3-1-101, *Operation and Maintenance Instruction, High, Medium, Low Security Hardware*, to avoid lock damage. Do not interchange cylinders when replacing cylinders on high security lock Models H-831B and LK1200. Document all lock and cylinder maintenance.

6.2.4.8.1. ILDs are limited to lubrication cycles as depicted in Engineering Manual Operation and Maintenance Manual for the ILD. Copies of this manual can be obtained from Naval Facilities Engineering Command at Port Hueneme, CA.

6.2.4.8.2. Custodians will ensure ILD cylinders only have limited maintenance actions performed such as applying a light coating of spray lubricant periodically. **(T-2).** Custodians will ensure that at no time are the bolt works disassembled by user personnel unless directed by DoD Lock Program officials. **(T-1).**

6.2.4.9. Locally dispose of unserviceable keys, locks, and cylinders. **(T-3).** (ILD unserviceable keys and cylinders are sent to the address listed in **paragraph 6.1.10.1.1**.) Individual unserviceable keys/cylinders will be destroyed prior to disposal. **(T-1).** If serviceable keys and associated cylinders are being removed from service, key destruction is not required; however, the AF 2427 will be annotated. **(T-1).** Destruction of individual keys will be completed as follows; Custodians will ensure:

6.2.4.9.1. Two individuals will destroy keys/cylinders to a point that reasonably prevents duplication. **(T-1).** Key and lock custodian will verify destruction. **(T-1).**

6.2.4.9.2. All serial numbers are obliterated. **(T-1).**

6.2.4.9.3. Destruction is recorded on AF 2427. **(T-1).**

6.2.4.10. Document combination changes by letter. **(T-1).** Written combinations shall be minimized and when written shall be stored according to the required classification. **(T-1).** If a safe is used for the sole purpose of securing keys, the Optional Form 89, *Maintenance Record for Security Containers/Vault Door*, must be used. **(T-1).** Optional Form 89 can be obtained at **https://www.gsa.gov/forms-library/maintenance-record-security-containersvault-doors**

6.2.5. Key Issuing Authorities will:

6.2.5.1. **(Nuclear)** Ensure keys to nuclear weapons facilities are issued and transferred only to authorized individuals in possession of a work order. **(T-1).** Ensure AF 2432 is documented for all key transactions. **(T-1).**

6.2.5.1.1. Verify individuals against a current copy of the authorization listing (e.g., Entry Access List, AAAL) prior to issuing or transferring keys. **(T-1).**

6.2.5.2. **(Conventional)** Ensure keys to conventional munitions storage facilities are only issued or transferred to authorized individuals for completion of tasks assigned an open work order.

6.2.5.3. Individuals are authorized to transport keys to conventional munitions facilities between the non-duty hour storage facility and the on-duty issuing location. Only one authorized individual is necessary to transport these keys.

6.2.5.4. Maintain the automated listing or letter authorizing individuals to sign for keys to conventional munitions maintenance and storage facilities. **(T-1).**

6.3. Key and Lock Management.

6.3.1. Initiating an AF 2427. The AF 2427 is used to control locks, cylinders, and keys, including reserve cylinders and keys). All entries will be typed or in ink. **Exception:** columns 2 and 3 may be in pencil. Key Custodians will dispose of AF 2427 per DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*.

6.4. Lock and Key Audit Procedures. An audit is a physical check (operating cylinder with the primary, spare, and control key set) of all lock cylinders used to secure munitions maintenance and storage structures or spare cylinders. In addition, the serial numbers and location of all keys and lock cylinders are verified (including spare cylinders) with the AF Form 2427. The key serial numbers of the remaining key sets not used for the physical check are verified with the AF Form 2427. **Note:** Only one line entry is required in column 5 and 6 to document the audit of an entire

page. Multiple audits may be documented on the same page provided key/cylinder data remains unaltered with zero discrepancies. (Nuclear) Both individuals performing the audit will sign and print last name in block 6 to certify completion of the audit. **(T-2)**.

6.4.1. Munitions/Maintenance Supervision will ensure key audits for weapons/munitions maintenance and storage facilities are accomplished:

6.4.1.1. When appointing new Key and Lock Custodians. **(T-0).**

6.4.1.2. **(Non-Nuclear)** At least semi-annually **(T-1).** **Exception**: Units that are responsible for keys and locks at remote sites will conduct this audit annually to coincide with the annual maintenance visit or the annual/change of MASO inventory. **(T-1).**

6.4.1.2.1. By a disinterested party or person not responsible for that particular ammunition and explosive (AE) resource. This person is someone with no stake in the outcome of the audit/inventory/munitions accountability. Additionally, Key and Lock Custodians and personnel authorized to receive or issue keys will not perform audits. **(T-0).** The person conducting the audit cannot be someone authorized unaccompanied access to that particular AE resource. **(T-0).**

6.4.1.3. At least monthly for nuclear weapons maintenance and storage facilities. **(T-0).**

6.5. Key Transactions. Key Issue, Turn-in, Transfer and Inventory Procedures. The AF Form 2432 is used to document key activity for keys. The log is annotated when keys are issued, turned in, transferred, or inventoried. Separate forms are used for each primary, spare, and control key set. Mark forms with the appropriate set title. **(Non-Nuclear)** Custodians will ensure forms are maintained for a period of one year in accordance with DAFI 31-101. **(T-0). (Nuclear**) Custodians will ensure forms are maintained for three months plus current prior to disposition. **(T-1).** Form disposition will be conducted in accordance with Air Force Records Disposition Schedule located at **https://afrims.cce.af.mil**. **(T-1).**

6.5.1. Munitions/Maintenance Supervision will ensure accountability records contain the name and signature of the individual receiving/returning the key, date and time of issuance/return, serial number or other identifying information of the key, signature of individual issuing the key, date and time of return, and name and signature of individual receiving returned keys. **(T-1).** Individual receiving keys will sign top portion of AF 2432 and key issuing authority will sign bottom portion of form on all transactions. **(T-1).**

6.5.2. Munitions/Maintenance Supervision will ensure dual signature is completed for keys to nuclear facilities. **(T-0).**

6.5.2.1. Single line strike throughs of entries on the AF 2432 that are entered in error are authorized.

6.5.3. Groups of keys may be issued to a conventional munitions function and then re-issued to authorized individuals. In these cases, appropriate personnel must be designated as key issuing and receipt authorities in writing. **(T-1).** Use a separate log to document key re-issue and receipt actions. Submit all completed forms to Munitions Control where historical documents will be maintained.

6.5.4. Munitions/Maintenance Supervision may authorize (in writing) the unit to maintain multiple key issue logs.

6.6. Release/Receipt of Conventional Munitions Keys to Organizations outside the Munitions Activity.

6.6.1. To provide local assistance, Munitions/Maintenance Supervision may approve personnel outside the munitions activity to receive keys and authorize placement on the Entry Authorization List. Munitions/Maintenance Supervision must verify proper security clearance prior to approval. **(T-1).** This authority applies to exceptional and emergency conditions and Munitions/Maintenance Supervision shall not use this for routine activities or convenience. **(T-1).** Exceptional circumstances include:

6.6.1.1. Emergency EOD or Security Forces response when support of normal munitions stand-by personnel is not a viable option.

6.6.1.2. Units operating from/supporting geographically separated installations may release the primary (daily-use) keys outside the Munitions Activity. The application of geographical separation to the operating/support environment is at the discretion of Munitions/Maintenance Supervision. For example, geographical separation may be based on a significant distance (e.g., different region, country) or may be a short distance (e.g., local barriers impeding effective access/movement such as a highway, flightline, other obstacle).

6.6.2. Keys to munitions structures located within the MSA are not generally released to organizations outside the munitions activity. Under unique circumstances, the commander of the organization owning and controlling the facility may authorize release of conventional facility keys in writing. This authorization is granted only after local procedures for control of keys and access to facility is developed. The commander of the organization owning and controlling access to facilities must approve requests designating personnel outside the organization as key issuing authorities, key control custodians, and key issue/receipt authorities, as appropriate, for the designated facilities. **(T-1).** Before implementing these options, Munitions/Maintenance Supervision must ensure consideration is given to munitions storage area and facility access, security and alarms, required notifications, 24-hour coverage, and explosives safety criteria. **(T-0).**

6.6.3. Personnel appointed to maintain primary/spare keys to munitions facilities outside the Munitions Activity must comply with all provisions of DoDM 5100.76 and DAFI 31-101, for key and lock control and documentation to include key issue logs, key and lock control registers, and key and lock audit records. **(T-0).** When complete, personnel will submit these documents to the host Munitions Control activity for filing and disposition. **(T-2).**

6.7. Automated Key and Lock Control Procedures.

6.7.1. Automated records documentation requirements. Air Force units may use an Air Force approved and accredited information system that requires individual password access (by the key issuing authority and key receipt individual) and creates a historical record of the key transaction.

6.7.2. Units must ensure the automated key and lock control system is able to record, display, and retrieve key transaction records including the rank, name (or password) that identifies the individuals involved in the transaction, date and time of the transaction, and key or facility number. **(T-0).**

6.7.3. There is no requirement for printed automated key control records. However, units must ensure an automated record is retrievable on-demand and displays all required information for the same time period that printed copies are required to be maintained on file. **(T-0).**

6.7.4. If an electronic/digital key control system is used, the UserID/Password combination or CAC/PIN satisfies signature requirements for access identification and authorization controls.

Chapter 7

QUALITY ASSURANCE (QA)

7.1. General

7.1.1. Purpose. The Quality Assurance (QA) function is designed to provide logistics managers and unit leadership with a method to evaluate compliance with Air Force, MAJCOM, and local directives and policies. It provides an objective sampling of both the quality of equipment and the proficiency of personnel. Basic program information and definitions are described in AFI 21-101. Functions in this chapter are unique to Nuclear and ICBM personnel. QA will ensure Conventional Munitions and Armament Systems follow QA guidance in AFI 21-101 except as identified in **paragraph 7.1.2.1.1**. **(T-1)**.

7.1.1.1. QA personnel are not normally an extension of the work force and will not be tasked to support unit operations without Group Commander approval. **(T-3).**

7.1.1.2. Nuclear and ICBM equipment condition and personnel proficiency are validated through the Maintenance Standardization and Evaluation Program (MSEP) and QA will record them using an Air Force-approved quality assurance database. **(T-2)**.

7.1.2. Scope.

7.1.2.1. **(Nuclear, ICBM, and Cruise Missile units)** (Depot maintenance QA will follow guidance in AFI 21-102, *Depot Maintenance Management*). QA will assess the following areas: management and administration; quality assurance; stockpile and facilities; key and lock management; tools, test, tiedown and handling equipment; technical operations; Munitions Control; MMOC; training; and supply support. **(T-2).** MAJCOMs may dictate additional requirements.

7.1.2.1.1. If 2W0 or 2W1 personnel are certified to perform nuclear operations other than flight line loading (e.g., limited general maintenance, transfer, transport), they will comply with personnel evaluation requirements for nuclear certified tasks in this chapter. **(T-1).**

7.1.2.2. Unit-level MSEP program is not applicable to contract logistics activities unless required by the Statement of Work, Performance of Work Statement, or contract. Wings will ensure contracted maintenance programs are in compliance with applicable directives through evaluations performed by the Contracting Officer Representative using the criteria outlined in the Performance Requirement Summary, Performance Measurement Analysis Package, Contract Performance Work Statement, or Quality Assurance Surveillance Plan as applicable. **(T-1).**

7.1.3. Terms. The frequencies of inspections and evaluations mandated in this chapter are based on the requirement to develop, coordinate and publish a quarterly MSEP. This battle rythym sets the foundation for planning and scheduling inspections and evaluations.

7.1.3.1. The use of the word “quarter” or “quarterly” within this chapter means a task or quantified percentage must be accomplished within each published MSEP.

7.1.3.2. The use of the word "semi-annual" or "semi-annually" within this chapter means a task or quantified percentage must be accomplished in at least every other published MSEP.

7.1.3.3. The use of the word "annual" or "annually" within this chapter means not to exceed a 12-month interval. The term "biennial" or "biennially" within this chapter means not to exceed a 24-month interval. Annual and bi-ennial requirements are due by the last day of the 12th or 24th month from previous eval (e.g., if completed Jan 15th, it is due NLT Jan 31st of the following year or NLT Jan 31st of the subsequent year).

7.1.3.4. DELETED.

7.2. Responsibilities.

7.2.1. Group Commanders (or equivalent) will:

NOTE: Responsibilities will fall to the Squadron Commander (or equivalent) for geographically separated units or units without a parent Maintenance Group.

7.2.1.1. Ensure QA is properly staffed based on workload and experience. **(T-2).**

7.2.1.2. Approve technicians recommended to fill full-time and augmentee evaluator positions. **(T-2).**

7.2.1.3. Ensure development of a MSEP in accordance with this chapter. **(T-1).**

7.2.1.4. Direct group wide activity inspections as required. **(T-2).**

7.2.1.5. Chair Unsatisfactory Boards as required. **(T-3).**

7.2.1.6. Chair the quarterly MSEP review. **(T-3).**

7.2.1.7. Approve the Group's Routine Inspection List (RIL). **(T-2).**

7.2.2. QA Officer-In-Charge/Superintendent (QA OIC/SUPT) (or equivalent) will:

7.2.2.1. Develop and implement MSEP program using the Air Force approved QA database. **(T-1).**

7.2.2.2. Notify appropriate agencies when deficiencies are found in official publications (i.e. TOs, AFI, AFMAN, etc.). **(T-1).**

7.2.2.3. Ensure required evaluations and inspections are performed. **(T-2).**

7.2.2.4. Review and coordinate on all locally designed tools or equipment requests. **(T-1).**

7.2.2.5. Set evaluation/inspection report content, format, distribution and routing procedures. **(T-2).**

7.2.2.6. Develop the RIL, in coordination with Operations Officer/Maintenance Superintendent, and provide copies of approved lists to all affected organizations. **(T-2).**

7.2.2.7. Develop Acceptable Quality Level (AQL) standards for tasks included in the RIL. **(T-2).**

7.2.2.8. Ensure agendas and presentations are compiled for the quarterly MSEP meeting. **(T-2).**

7.2.2.9. Manage the Activity Inspection Program. **(T-2).**

7.2.2.10. DELETED

7.2.2.11. Designate individuals to lead the Technical Order Distribution Office (TODO), unless contracted. **(T-2).**

7.2.2.12. Maintain a listing of current augmentees, if utilized. **(T-3).**

7.2.2.13. Appoint a Product Improvement Manager (PIM) to manage the Product Improvement Program (PIP) **(T-1)**. If PIP functions are delegated outside of QA, the Group Commander must assign those specific functions to office(s) within the organization. **(T-3).**

7.2.2.14. Verify and publish combined Group In-Process Inspection listing biennially. **(T-2).**

7.2.2.15. Develop and manage a comprehensive unit evaluator training and qualification program. **(T-1).** Ensure the program:

7.2.2.15.1. DELETED.

7.2.2.15.2. Requires personnel selected as evaluators to:

7.2.2.15.2.1. Be qualified on QA evaluator and workcenter CFETP tasks associated with any operation the evaluator inspects or evaluates. **(T-2).** The QA OIC/SUPT can authorize technical subject matter expert (SME) to assist QA evaluators who are not qualified on workcenter CFETP tasks. Personnel designated as a technical SME should, to the maximum extent possible, not be from the same work center as personnel being evaluated.

7.2.2.15.2.2. Complete unit evaluator training program. **(T-2).**

7.2.2.15.2.3. Possess a 7-skill level or above and be qualified to conduct QA evaluations on the applicable nuclear weapons certifiable tasks identified in **Table 7.4**. **(T-2).** The Group Commander may authorize qualified 5-skill level, 2M0X2 personnel, in the rank of SrA or higher to evaluate ICBM RS mate/demate and Payload Transporter RS handling tasks.

7.2.2.15.2.4. Complete required Evaluator Proficiency Evaluation (EPE) per **Table 7.5**. with a Satisfactory rating. **(T-2).**

7.2.2.16. Develop a QA Augmentation Program if required functional areas do not warrant full-time positions but specialized expertise is required. **(T-2).**

7.2.2.16.1. Augmentees will meet all selection and qualification requirements of QA evaluators. **(T-2).**

7.2.2.16.2. The QA OIC/SUPT will coordinate augmentee duties and deconflict schedules for augmentee use with Operations Officer/Maintenance Superintendent (or equivalent). **(T-3).**

7.2.2.17. Develop and execute a plan to rotate QA personnel. Personnel should normally be assigned to QA for 24 months with a maximum of 36 months.

7.2.3. Chief Inspector will:

7.2.3.1. Use assigned inspectors to provide on-the-spot assistance to correct problems. **(T-2).**

7.2.3.2. Review QA database and inspection summary inputs for accuracy and content. **(T-2).**

7.2.3.3. Initiate actions when additional attention is required to resolve adverse maintenance trends or training problems. **(T-2)**. Actions may include preparing information bulletins and messages for Group Commander release within the group and to the MAJCOM.

7.2.3.4. Review and compile inputs for the In-Process Inspection listing (if applicable) biennially. **(T-1).** Maintain a copy of the approved In-Process Inspection listing with the signature and date of review. **(T-2).**

7.2.3.5. Review major discrepancies for trends quarterly. **(T-1).** If frequency or severity of identified discrepancies warrant inclusion of that item into a specific T.O. to govern an action or inspection, the QA Chief Inspector must coordinate with owning workcenter to ensure an AFTO Form 22, *Technical Manual Change Recommendation and Reply*, or unsatisfactory report is submitted and/or a local work card, page supplement, or checklist is developed in accordance with T.O. 00-5-1-WA-1. **(T-1).**

7.2.3.6. Establish procedures for inspectors to document completed inspections. **(T-1).**

7.2.3.7. Review MSEP data monthly to identify high-missed items from evaluations and inspections (ANG quarterly). **(T-1).** A high-missed carded item is defined as any work card or T.O. item missed at least three times during a one-month period. Include this data in the monthly MSEP summary. **(T-1).**

7.2.4. Quality Assurance Inspectors will:

7.2.4.1. Evaluate personnel performing maintenance tasks, inspections, training, and associated maintenance documentation. **(T-1).**

7.2.4.2. Perform RIL inspections as required. **(T-1).**

7.2.4.3. Enter inspection and evaluation reports into the appropriate QA database. **(T-1).**

7.2.4.4. Evaluate forms documentation and Maintenance Information System inputs. **(T-1).**

7.2.4.5. Spot-check T.O.s, inspection work cards, checklists, job guides, and Work Unit Code manuals during evaluations and inspections for currency and serviceability. **(T-1).**

7.2.4.6. Ensure housekeeping, safety, security, and environmental control standards are followed in inspected workcenters. **(T-1).**

7.2.4.7. Ensure equipment and equipment forms and Maintenance Information System documentation are completed and accurate in accordance with T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, And Procedures*. **(T-1).**

7.2.4.8. Make recommended changes for maintenance tasks requiring In-Process Inspections to the Chief Inspector. **(T-1).**

7.2.4.9. Attend scheduling meetings to determine evaluation and inspection opportunities. **(T-3).**

7.2.5. General QA Responsibilities. QA will:

7.2.5.1. Utilize a management system that reflects required evaluations/inspections, completion dates and due dates. **(T-1).**

7.2.5.2. Oversee One Time Inspections in accordance with T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*. **(T-1).**

7.2.5.3. Review the Delayed Discrepancy Listing for appropriateness and timely resolution of deferred discrepancies. **(T-1).**

7.2.5.4. Participate in CFETP reviews and assist training functions (e.g. FTD) and workcenter supervisors in identifying training requirements. **(T-3).**

7.2.5.5. Review maintenance related instructions, supplements, operating instructions, forms, and local checklists in accordance with DAFI 33-360. **(T-1).**

7.2.5.6. Review new and revised T.O.s for completeness, accuracy and applicability. **(T-1).** Inform workcenters of changes and up channel any problems discovered during this review. **(T-1).**

7.2.5.7. Review locally produced lesson plans and task breakdowns for adequacy and technical accuracy. **(T-1).**

7.2.5.8. Conduct the QA Orientation Course for technicians who are evaluated under MSEP prior to their first evaluation. **(T-2).**

7.2.5.9. Manage the PIP. **(T-1).** PIP includes the following programs; QA will complete:

7.2.5.9.1. Deficiency Reporting. Report as prescribed by T.O. 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, and AFMAN 23-122, *Materiel Management Procedures*.

7.2.5.9.2. T.O. Improvement Program (AFTO Form 22)/Civil Engineering Manual change requests. Process proposed changes in accordance with T.O. 00-5-1-WA-1. Assign control numbers and maintain an AFTO Form 22 suspense file.

7.2.5.9.3. Modification Management. All modifications to nuclear munitions or their associated support and training equipment shall be in accordance with AFI 91-101, *Air Force Nuclear Weapons Surety Program*. QA or the designated PIM will:

7.2.5.9.3.1. Conduct a technical review of the approved modification instruction, Retrofit Orders, MCL, and TCTOs. **(T-1).** Determine:

7.2.5.9.3.1.1. If unit has current and compatible T.O.

7.2.5.9.3.1.2. If technicians require additional training.

7.2.5.9.3.1.3. If workcenter requires additional supply items or special tools.

7.2.5.9.3.1.4. If the modification will interface with, or is contingent upon, a separate modification.

7.2.5.9.3.2. Evaluate modification progression and sampling effort per **Table 7.4**.

(T-1).

7.2.5.9.4. Maintenance Assistance Program. Coordinate on all requests for maintenance assistance and support for activities beyond unit capability in accordance with T.O. 00-25-107, *Maintenance Assistance*.

7.2.5.10. Maintain records of all approved locally designed tools and equipment

7.2.5.11. Unsatisfactory Boards. Develop procedures for unsatisfactory/fail boards for all nuclear maintenance, mate/demate, and handling tasks **(T-1).** A board will be held for all unsatisfactory/fail ratings earned during personnel evaluations on certified nuclear weapons tasks involving war reserve (WR) assets (reference AFMAN 21-204) due to a major error or the inability to correctly or safely perform the task without excessive outside intervention or assistance (exhibiting a lack of technical proficiency). **(T-1).** Commanders may direct unsatisfactory/fail boards for any other evaluation/inspection at their discretion. Geographically Separated Units may do these boards via telecom or video teleconference where distance prevents in-person participation.

7.2.5.11.1. Board members will include the failed individual and/or team, and the following members (or designated representatives after coordination with MXG/CC/CD):

7.2.5.11.1.1. Chair - Group Commander. **(T-2).**

7.2.5.11.1.2. QA OIC/Superintendent. **(T-2).**

7.2.5.11.1.3. Squadron Commander. **(T-2).**

7.2.5.11.1.4. Operations Officer/Maintenance Superintendent. **(T-2).**

7.2.5.11.1.5. Chief Inspector. **(T-2).**

7.2.5.11.1.6. QA evaluator(s) who awarded the rating. **(T-2).**

7.2.5.11.1.7. Trainer/instructor of applicable task. **(T-2).**

7.2.5.11.1.8. Flight Commander/Chief. **(T-2).**

7.2.5.11.1.9. Section OIC/NCOIC. **(T-2).**

7.2.5.11.2. QA will ensure the board covers the following:

7.2.5.11.2.1. An overview of the unsatisfactory performance. **(T-2).**

7.2.5.11.2.2. Technician(s) and/or team evaluation history. **(T-2).**

7.2.5.11.2.3. Unit's related unsatisfactory ratings for trend analysis. **(T-2).**

7.2.5.11.2.4. Root cause(s). **(T-2).**

7.2.5.11.2.5. Corrective actions. **(T-2).**

7.3. Maintenance Standardization & Evaluation Program (MSEP). QA shall assess unit compliance and look for areas to improve unit performance. **(T-1).** The program is established in a manner that assists QA inspectors in readily identifying and tracking all minimum inspection and evaluation. QA will review and update the plan quarterly in association with maintenance managers. **(T-1).** QA will ensure this plan includes applicable requirements from **Table 7.3**, **Table 7.4**, and **Table 7.5**. **(T-1).** When developing the plan, QA will:

7.3.1. Address areas of concern identified by maintenance managers. **(T-1).**

7.3.2. Tailor the plan for each squadron, flight, or section mission. **(T-2).**

7.3.3. Include the following QA Focus Areas:

7.3.3.1. T.O.s, directives, and publications compliance. **(T-1).**

7.3.3.2. Maintenance documentation. **(T-1).**

7.3.3.3. Compliance and management of safety, environmental, and housekeeping programs. **(T-1).**

7.3.3.4. Training and qualification of personnel. **(T-1).**

7.3.3.5. TCTO, Retrofit Order, MCL, and modification program management. **(T-1).**

7.3.3.6. Management of unit directed programs. **(T-1).**

7.3.4. Include input from the Operations Officer/Maintenance Superintendent to ensure evaluation efforts are focused on specific known or suspected problem areas. **(T-2).**

7.3.5. Establish a Routine Inspection List (RIL). **(T-1).** The RIL is a list of routine inspections that are mandatory for QA to perform. QA consolidates Munitions/Maintenance Supervision inputs and obtains Group Commander approval prior to adjusting the RIL. The RIL must contain the following inspections, if applicable:

7.3.5.1. Equipment maintenance and equipment forms documentation.

7.3.5.2. T.O. currency and use.

7.3.5.3. Composite Tool Kit (CTK) Program.

7.3.5.4. Test, Measurement and Diagnostic Equipment (TMDE) Program.

7.3.5.5. Housekeeping.

7.3.5.6. Vehicles and associated documents.

7.3.5.7. Environmental compliance.

7.3.5.8. Training programs and records.

7.3.5.9. NWRM Program.

7.3.5.10. Nuclear Certified Equipment.

7.3.5.11. Personnel hoists and associated lifting bridle.

7.3.5.12. Industrial/support equipment and special tools.

7.3.5.13. Shelf Life Items.

7.3.5.14. Plans and Scheduling.

7.3.5.15. Unsatisfactory Reports, Dull Swords, and deficiency reporting programs.

7.3.5.16. Historical records (e.g., AFTO Form 244/95, Weapons Information Reports).

7.3.5.17. Unit programs required to support maintenance or safety functions.

7.3.5.18. All applicable IMDS Job Standard Tasks for accuracy, intent and necessity.

7.3.6. Establish appropriate Acceptable Quality Levels (AQL) for tasks, processes, programs, and inspections identified in the unit plan. An AQL denotes the maximum allowable number of minor findings that a task, program, process, or product may receive and be rated "Pass/Satisfactory." The AQL is derived from QA performance-based data. Units must develop minimum AQLs for inspections and evaluations not standardized in Air Force or MAJCOM publications and supplements. AQLs will be reviewed at frequencies determined by the Group Commander.

7.3.6.1. AQLs for selective nuclear weapons maintenance, cruise missile maintenance, weapons mate/demate and nuclear weapons handling defined in **Table 7.4** are maximums and shall not be adjusted higher than indicated. **(T-1).** AQLs are defined for each task, program, process, and product identified in the RIL.

7.3.6.2. A nuclear weapon maintenance or weapon mate/demate task is defined as a task performed on a single weapon or single piece of launch gear (e.g., launcher, pylon). A weapon handling task is defined as the handling of a single weapon, single double-stack, or a group of weapons on a single piece of launch gear. Maintenance or handling operations on multiple weapons and/or launch gear will be evaluated as separate tasks but may be captured on one report provided the AQL per task is not exceeded.

7.3.6.3. QA will publish the AQL in the unit's MSEP. **(T-1).**

7.4. Evaluations, Inspections, and Observations.

7.4.1. Personnel Evaluations (PE). A PE is an over-the-shoulder evaluation of a maintenance action, inspection, training session, or QA evaluation. Individuals performing, supervising, training, or evaluating maintenance tasks are subject to a PE. PE Evaluators will not assess ancillary discrepancies found during PEs, such as an improperly etched tool, against the evaluation unless it directly contributes to improper task completion (e.g., overdue torque wrench utilized to attach hardware). **(T-1).** PE Evaluators will ensure ancillary discrepancies noted during the evaluation will be assessed in a separate Special Inspection on the affected item or program. **(T-1).**

7.4.1.1. Evaluator Proficiency Evaluation (EPE). The QA OIC/SUPT or Chief Inspector, by virtue of their position, are qualified to perform EPEs on QA inspectors per **Table 7.5** The QA OIC/SUPT or Chief Inspector may elect to use a qualified technical advisor to conduct EPEs during evaluations of programs or procedures that fall outside the scope of their primary experience. Each QA inspector must pass the EPEs prior to performing unsupervised evaluations and inspections. **(T-1).** EPEs will be tracked in the Maintenance Information System or Air Force approved QA database. **(T-1).** QA inspectors who are also nuclear weapons certifying officials must also meet AFMAN 21-204 requirements.

7.4.1.2. Personnel Evaluation Guidelines:

7.4.1.2.1. Observe a variety of tasks, different equipment, and different maintenance actions for each technician.

7.4.1.2.2. Ensure evaluations cover all weapon systems in which a technician is qualified and/or certified in accordance with **Table 7.5**.

7.4.1.2.3. Use no-notice evaluations whenever possible.

7.4.1.2.4. QA will ensure PEs are only accomplished while observing actual task. **(T-1).** Evaluators will not be part of the task being performed; however, QA may be part of the Two-Person concept team when required. **(T-1).**

7.4.1.2.5. QA may perform evaluations on personnel utilizing training weapons and in training facilities.

7.4.1.2.6. A nuclear certification is considered a normal PE with regards to all evaluation rules provided in this instruction. ***EXCEPTION:*** Certifications will not be counted against QA's required PE totals in the MSEP and failed/no-go certifications are not subject to Group Unsatisfactory Boards.

7.4.1.2.7. Verify the technician, trainer, instructor, or evaluator is qualified to perform, train, or evaluate the maintenance task. If not completed prior to the evaluation, QA will ensure verification is completed before the grade is rendered. **(T-1).**

7.4.1.2.8. Whenever possible, evaluators should have their own copy of T.O.s available for the task being evaluated.

7.4.1.2.9. Evaluators must detect, intervene, and stop a task if conditions exist that would jeopardize personnel or weapon safety, security, weapon system reliability, cause equipment damage. **(T-1).** Evaluators must also intervene after determining individuals under evaluation cannot correctly or safely perform a task without excessive outside intervention or assistance. **(T-1).** The evaluator may only stop the task after all reasonable opportunities by those under evaluation to detect or correct a deficient condition have passed. If a task is stopped, the QA evaluator(s) will:

7.4.1.2.9.1. Notify the bay chief or critical task supervisor (as applicable) and the Section NCOIC. **(T-3).**

7.4.1.2.9.2. In conjunction with the technician's Section NCOIC, assess whether the unit will:

7.4.1.2.9.2.1. Replace the technician(s) on the spot.

7.4.1.2.9.2.2. Supervise the technician(s) finishing the task. (The supervisor must be qualified on the task.) This does not apply if individual is decertified in accordance with AFMAN 21-204.

7.4.1.2.9.2.3. Terminate the task.

7.4.1.2.10. Evaluators may ask questions to determine the individual's knowledge of the task being performed. Questions of this type should be deferred to the end of the operation.

7.4.1.2.11. Individuals may refer to technical guidance or use their normal supervisory chain of command when answering questions.

7.4.1.2.12. Evaluators will brief all personnel to be evaluated prior to the start of the evaluation. **(T-3).** If a task is already in progress, notify the individuals being evaluated that they are under evaluation and brief them as soon as possible. Evaluators advise the technicians of the following:

7.4.1.2.12.1. All personnel involved in the operation are subject to evaluation. **(T-**

3).

7.4.1.2.12.2. Evaluated personnel may take breaks during the evaluation. **(T-3).**

7.4.1.2.12.3. Evaluated personnel must notify the evaluator of any steps previously complied with, simulations, and/or deviations affecting the evaluation. **(T-3).**

7.4.1.2.12.4. The technician may ask for technical help from personnel and agencies normally available in the conduct of day-to-day maintenance.

7.4.1.2.12.5. The evaluator will stop the task per **paragraph 7.4.1.2.9**, if required.

7.4.1.2.12.6. If conducting a PE of a training session, the evaluator additionally advises the trainer/instructor of the following additional items:

7.4.1.2.12.6.1. The trainer/instructor must prevent and immediately correct any of the following: weapons system safety rule violations, code compromises, Two-Person Concept violations, significant security violations, or safety errors which could result in personnel injury and/or equipment damage. **(T-1).**

7.4.1.2.12.6.2. The trainer/instructor must correct all noted errors before completing the training session. **(T-1).** The training session is considered complete when the instructor critiques the student's performance.

7.4.1.2.12.6.3. Evaluators will consider the trainer's/instructor's familiarity with procedures, adherence to T.O.s, lesson plans, and/or task breakdowns, verbal skills, ability to precisely describe procedures, and control over trainees.

7.4.1.2.12.6.4. Evaluators will not generate an evaluation report on the trainees.

7.4.1.2.13. Evaluators will determine a PE grade for each individual per **paragraph 7.5.2.2**. **(T-1).**

7.4.1.2.14. Technicians and trainers/instructors will be critiqued as soon as practical after an evaluation. **(T-1).** The evaluator must cover the following:

7.4.1.2.14.1. Explain each error, who it was charged to, error category, and grade for each individual.

7.4.1.2.14.2. Explain the mission impact of each error.

7.4.1.2.14.3. Identify the substandard performance that contributed to any Unsatisfactory rating.

7.4.1.2.14.4. Review the technician, trainer/instructor, or evaluator strengths and weaknesses.

7.4.1.2.15. Render QA reports in accordance with **paragraph 7.6**.

7.4.2. Inspections. QA conducts inspections to provide managers an appraisal of mission capability and management effectiveness. The focus is on efficiency, procedural compliance, and adequacy of directives.

7.4.2.1. Quality Verification Inspections (QVI). A QVI is an inspection of equipment condition, or a process, following an inspection, servicing or repair action, or verification that a technician or supervisor properly completed an inspection or repair action.

Evaluators shall not conduct QVIs after equipment operation when such operation could invalidate indications of proper job accomplishment. **(T-2).** Limit QVIs to the same inspection card deck or T.O.s required for the job. Evaluators will ensure the QVI report reflects all discrepancies and identify the individuals who performed the maintenance; however, grades for individuals are not given. **(T-1).**

7.4.2.2. Management Inspection (MI). MIs are utilized to follow-up on trends, conduct investigations or conduct research to get to the root cause of problems. Commanders or superintendents may request MIs. Report MI results to the requester, and allow them latitude to explore options prior to implementing corrective actions. MIs may be non-rated and may be counted in QA trends.

7.4.2.3. Special Inspections (SI). SIs are inspections not covered by QVIs or MIs. SIs may include, but are not limited to, equipment, equipment forms, document files, tool program, T.O. files, vehicle inspections, facility inspections, housekeeping, and safety programs. SIs may be condition, procedural, or compliance oriented. SIs may be non-rated; however, if rated, rate as pass or fail.

7.4.2.4. Activity Inspection (AI) Program. MAJCOMs may establish an AI program. AIs are management and compliance oriented inspections applied group-wide. AIs may be utilized to identify maintenance discipline, housekeeping, and technical discrepancies.

7.4.3. Observations. This category represents observed events or conditions with safety implications or technical violations not related to an evaluation or inspection, and are considered unsafe, in violation of established procedures, or in the case of equipment, unfit for operations. Observations include a Detected Safety Violation (DSV), Technical Data Violation (TDV), and Unsatisfactory Condition Report (UCR). The AF-approved QA database is used to document any of the following conditions:

7.4.3.1. Detected Safety Violation (DSV). An observed unsafe act by an individual. The inspector must stop the unsafe act immediately. Do not document a separate DSV on an individual undergoing a PE since the unsafe act automatically results in a "Fail" rating on the PE. Use the word “Safety” when a safety violation is committed during a PE. Evaluators will render a DSV for significant violations of personnel or weapon system safety. **(T-1)**.

7.4.3.2. Technical Data Violation (TDV). An observation of any person performing maintenance without the proper technical data available and in use. The technician must have knowledge of all general directives associated with the job prior to performing the task. However, those general directives need not be present at the job site. Evaluators will not document a separate TDV on an individual undergoing a PE, since failure to use technical orders automatically results in a “Fail” rating. **(T-1).**

7.4.3.3. Unsatisfactory Condition Report (UCR). An unsafe or unsatisfactory condition, other than a DSV, chargeable to the work center supervisor. UCRs will be documented even when it is not possible to determine who created the condition. Evaluators will render a UCR for any unsatisfactory condition not reportable as a DSV/TDV. In these circumstances, do not provide individual ratings. **(T-1)**.

7.5. QA Grading and Rating Standards.

7.5.1. Evaluation and Inspection Criteria. Units will use Air Force checklists, work cards, and instructions approved for use at the unit level as the inspection standard. **(T-3).** MAJCOMs or units may supplement with additional local checklists. For evaluations of technician proficiency and inspection of equipment condition, the applicable T.O. is the standard.

7.5.2. Categorizing Errors, Grading, and Rating Inspections/Evaluations. Evaluators will categorize discrepancies discovered during inspections and errors committed during evaluations as either major or minor. **(T-1).** Evaluators will grade the performance of personnel during evaluations as "Satisfactory" or "Unsatisfactory." **(T-1).** Grades above "Satisfactory" may be used if included in the unit plan. Evaluators will rate overall inspections as either "Pass" or "Fail." **(T-1).**

7.5.2.1. Definitions of Major Finding and Minor Finding.

7.5.2.1.1. A major finding is defined as a condition that could endanger personnel, jeopardize equipment or system reliability, affect safety of flight, compromise security standards, violate Weapon System Safety Rules, warrant discontinuing the process or equipment operation, or condemn serviceable equipment. Any major discrepancy results in an automatic inspection or evaluation failure. Specific examples of major findings include, but are not limited to, those items identified in **Table 7.1**.

7.5.2.1.2. A minor finding is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, affect safety of flight, jeopardize equipment reliability, or warrant discontinuing a process or equipment operation. Specific examples of minor findings include, but are not limited to, those items identified in **Table 7.1**.

Table 7.1. Major and Minor Finding Examples.

MAJOR FINDING:
1. Violation of Weapon System Safety Rules. An error that would violate weapon system safety rules (Actual or Possible). 2. Significant Safety Error. An error that, as a reasonable expectation, could result in personnel injury caused by an individual's disregard or lack of attention to safety precautions. 3. Significant Equipment Damage. An error that, as a reasonable expectation, could damage a support equipment/weapon system component to the extent it cannot be used for its intended purpose. This does not include damage to common hand tools. 4. Code Handling Violation. An error that, as a reasonable expectation, could result in a code compromise (Actual or Possible). 5. Violation of Two-Person Concept. An error that, as a reasonable expectation, could result in a compromise of a no-lone zone or critical component(s) (Actual or Possible) as defined in AFI 91-101, *Air Force Nuclear Surety Program*. 6. Significant Security Violations. An error that, as a reasonable expectation, could result in compromise of the weapon system or subsystem (Actual or Possible). 7. Failure to have available or utilize technical data while performing maintenance. 8. Lack of Proficiency. Clearly demonstrated inability to successfully complete the task due to a lack of job knowledge. Cannot correctly or safely accomplish task without excessive outside

intervention or assistance.
9. Individual not trained/qualified/certified on task being performed (excluding minor training documentation errors).
10. Failure to document maintenance actions/conditions that, as a reasonable expectation, results in erroneous equipment availability/weapon system status.
11. Failure to recognize an unacceptable condition/test result that is cause for rejection of equipment or prevents support equipment/system or weapon system component from operating.
12. Failure to recognize an acceptable condition/test that causes the team/technician to reject serviceable components or equipment.
13. Failure to properly execute custody transfer procedures.
14. Failure to comply with the intent of technical data warnings or cautions. Failure to read a warning or caution is a minor error, provided the warning/caution is not violated.
15. A condition which creates an unreliable nuclear weapon or an unsafe or insecure environment as defined in CJCSI 3263.05, *Nuclear Weapons Technical Inspections*.

MINOR FINDING:

1. An error that does not prevent a support equipment/weapon system component from being used for its intended purpose, but would, as a reasonable expectation, have a detrimental effect on the operational life of the component/equipment/system. This may include damage to common hand tools due to misuse.
2. An error that, as a reasonable expectation, could require support equipment to be returned to another agency for recalibration/verification.
3. Any error not meeting the criteria for a major error.

ADDITIONAL PROFICIENCY EVALUATION CRITERIA FOR TRAINING SESSIONS

MAJOR FINDING:

1. Failure to have available/utilize technical data, lesson plan, or task breakdown, as applicable.
2. Failure to provide trainees with technically accurate information that could result in trainees lacking required skills or abilities to perform as required.
3. Failure to train all portions of the tasks that could result in trainees lacking required skills or abilities to perform as required.
4. **(ICBM)** Certifying a trainee who failed to demonstrate all required skills and abilities to complete the task to the go-no go level.
5. Trainer does not detect, correct, and provide re-training for major errors committed by trainees.

MINOR FINDING:

1. Did not document training session.
2. Did not detect/correct a minor error.

ADDITIONAL EVALUATOR PROFICIENCY EVALUATION CRITERIA

MAJOR FINDING:

1. Evaluator incorrectly awarded a major error and/or unsatisfactory rating.
2. Failure to brief all discrepancies identified or critique technicians.

3. Ensured task completion through interference or influence.
4. Failure to detect, stop, or correct a major error.

MINOR FINDING:

1. Failure to detect or correct a minor error.
2. Failure to document a critiqued error.
3. Did not provide a realistic impact statement.
4. Evaluator incorrectly awarded a minor error.

7.5.2.2. Determining grades for PEs.

7.5.2.2.1. If in a position to detect an error, team members will be levied with errors that go undetected or uncorrected prior to completion of the task whether or not the technician actually committed the error.

7.5.2.2.2. Once errors are properly categorized in accordance with **paragraph 7.5.2.1** and charged to an individual, utilize **Table 7.2** to determine the proper grade to award.

Table 7.2. Grading Criteria for PEs.

RULE	If the Individual Committed	AND	Award a grade of
1	No major findings	No minor finding, or the accumulation of minor findings does not exceed established AQL	Satisfactory
2		The accumulation of minor findings exceeds established AQL	Unsatisfactory
3	One or more major findings	N/A	

7.5.3. Rating inspections**.**

7.5.3.1. Pass. No major discrepancies and the number of minor discrepancies do not exceed AQL.

7.5.3.2. Fail. A major discrepancy or the number of minor discrepancies exceeds AQL.

7.6. Reporting QA Findings.

7.6.1. Every unit must capture and catalog the minimum data elements depicted in the following paragraphs for trending, cross tell, and benchmarking purposes. **(T-1).** Report all evaluations and inspections, on the AF Form 2419, *Routing and Review of Quality Control Reports*, or equivalent, using an AF-approved database. Capture assessment and trend data in a manner that makes information easily exportable for cross tell and benchmarking purposes. Produce reports that identify positive efforts as well as underlying causes of substandard quality. Units will develop procedures to restrict/grant levels of access to this information. **(T-1)**. Minimum data fields contained in the AF-approved database include:

7.6.1.1. Workcenter.

7.6.1.2. Inspector.

7.6.1.3. Employee.

7.6.1.4. Date.

7.6.1.5. Time (24-hour clock).

7.6.1.6. Shift.

7.6.1.7. Type Inspection Performed: This code reflects the inspection performed. (e.g., PE, SI, QVI)

7.6.1.8. AQL.

7.6.1.9. Rating/Grade.

7.6.1.10. Equipment/Task: Enter the type of equipment or task assessed.

7.6.1.11. Equipment identification number.

7.6.1.12. Discrepancy Category (major or minor).

7.6.1.13. Discrepancy root cause code: QA will identify the root cause of each major discrepancy and input the applicable cause code(s) from AFI 90-201, *The Air Force Inspection System* **(T-1).**

7.6.1.14. Remarks: The narrative of inspector observations.

7.6.2. Dissemination of reports is determined locally, but as a minimum, QA will route all reports in-turn through the responsible workcenter supervision, Flight Commander/Flight Chief, and Operations Officer/Maintenance Superintendent for review/comment. **(T-3).** QA will retain commented reports per Air Force Records Information Management System Table 21-09, Rule 02.00. **(T-1).**

7.6.3. QA will route all AF Forms 2419, *Routing and Review of Quality Control Reports*, or equivalent, identifying major findings, Technical Data Violations, Unsatisfactory Condition Reports, Detected Safety Violations, and any failed/unsatisfactory rated reports for nuclear certified tasks through Group and Squadron Commanders. **(T-3).**

7.7. Monthly MSEP Summary .

7.7.1. QA will publish and distribute (may be electronic) the monthly summary to Wing, Group, and Squadron Commanders and appropriate activities in the maintenance complex. **(T-3).**

7.7.2. Compile summary from inspection data and load crew evaluation statistics. QA will ensure the MSEP includes visual information, graphs, narratives, quality trends identified through inspections and evaluations, discussion of common problem areas, and descriptions of successful programs or initiatives. **(T-3).**

7.7.3. As a minimum, QA will ensure the monthly narrative report contains an analysis of the MSEP results, a summary of major discrepancies, technical inspections, and recommendations for improvement. **(T-1).**

7.7.4. Classified information will not be included in unclassified MSEP summaries. **(T-0).**

7.7.4.1. Publish classified data and information separately from the main summary.

7.7.4.2. Classify nuclear weapons stockpile data, if used, per applicable security classification guides.

7.7.5. Identify potential correlations between personnel evaluation results and technical inspection findings that may indicate strong or weak areas within the scope of the MSEP program.

7.7.6. Highlight high-missed items from PEs and QVIs in the unit's monthly MSEP summary. A high-missed carded item is defined as any work card item missed at least three times during a one-month period.

7.7.7. If QA is unable to meet any of the required minimum sampling requirements identified in **Table 7.3**, **Table 7.4** or **Table 7.5** for a quarter, QA will document a Memorandum for Record stating which minimum requirements were not met, what the actual percentages evaluated were for that quarter, and an explanation why the minimums were not met. **(T-1).**

7.7.7.1. QA will maintain this memorandum for 18 months. **(T-2).**

7.7.7.2. Missed evaluations and/or inspections should be made up during the next quarter, at the discretion of the MXG/CC.

7.7.8. If QA is unable to meet any of the required minimum sampling requirements identified in **Table 7.3**, **Table 7.4** or **Table 7.5** for 2 consecutive quarters, the QA OIC/SUPT will provide the Group Commander with a Memo for Record stating which minimum requirements were not met, what the actual percentages evaluated were for that period, and an explanation why the minimums were not met. **(T-1).** QA will maintain this memo for 2 years. **(T-2).**

7.8. Quarterly MSEP Meeting.

7.8.1. The Group Commander or designated representative will chair the quarterly MSEP meeting. **(T-3).**

7.8.2. Squadron Commanders, Operations Officer/Maintenance Superintendent, QA OIC/SUPT and Chief Inspector will attend the quarterly MSEP meeting. **(T-3).** Designated representatives may attend provided representative is knowledgeable of quarterly results and can address forum questions and provide input.

7.8.3. QA will ensure the quarterly MSEP meeting refines QA direction, addresses logistics issues, and resolves problems. **(T-2).** It provides situational awareness to all logistics activities by reviewing QA inspections, evaluations, and trends. Additionally, QA requirement compliance will be presented and determination made if missed requirements should be made up. **(T-1)**.

Table 7.3. Minimum Sampling requirements for Inspections[1].

Tasks	Frequency[2]	Remarks
Tools, Test, Tiedown and Handling (TTT&H) Equipment	One SI per quarter[2]	
Nuclear Certified Hoists including: - Payload Transporter - Transportable Maintenance System - Nuclear certified slings and attachments	100% annually	

- Cruise Missile Hoisting Equipment (MHU-186/E/F, MHU-166/E, MHU-224/E, and HLU-290/E)		
Munitions Control, Missile Maintenance Operations Center	One SI per Quarter[2]	
TYPE 3 trainers, Bomb Dummy Units, Inert/Dummy Training Items	25% Annually	Undocumented deficiencies to training assets will also be identified as SIs during PEs, certifications, etc.
Nuclear Storage and Maintenance Facilities	10% Annually	
Launch Facilities	10% Annually	
Missile Alert Facilities	1 per Quarter	
Weapons stockpile	10% Annually	
Cruise Missile Stockpile	10% Annually	All cruise missiles loaded on launchers and pylons; does not include demilitarization coded assets
High Security Key and Lock, Cell Unlock Device (CUD), and WS3 Communication Security (COMSEC) Programs	One SI per Quarter[2]	
Permissive Action Link (PAL) and Command Disable System Management Program	One SI per Quarter[2]	
Nuclear Accountability & Reporting Programs (accountable records, Unit Spares Authorization Listing, SEV/ Semiannual Inventory Report packages)	One SI per Quarter[2]	
*AF 2435, *Load Training and Certification Documents* or MAJCOM equivalent.	100% Annually	
Unit managed lesson plans	100% Annually	Not applicable for headquarters managed lesson plans
Single Missile Final Assembly Inspection	25% per Quarter	
Fully Loaded Pylon or Full EWO Load	50% per Quarter	In Integrated Maintenance Facility after final Supervisory Inspection
Fully Loaded Launcher or	50% per Quarter	In Integrated Maintenance

Full EWO Load		Facility after final Supervisory Inspection
Inspect RV Components	25% per Quarter	QVI
Inspect RS Components	25% per Quarter	QVI
Inspect Built-Up Reentry System	50% per Quarter	In the Maintenance and Inspection Facility after final supervisory inspection.
NOTES: 1. For the purposes of this table, a nuclear maintenance and inspection activity is any element or flight level organization that performs Force Development Evaluation (FDE) activities, nuclear weapons maintenance, weapons mate/demate and weapons handling. This also includes Plans and Scheduling, Munitions Control or Missile Maintenance Operations Center supporting these operations. 2. The scope and focus of the SI are determined jointly among QA, the OO/MX SUPT, and the Flight Chief.		

Table 7.4. Minimum Sampling Requirements & Maximum AQLs for PEs[1, 6].

Tasks	**Frequency[2]**	**AQL**
Common Weapons Maintenance		
General Maintenance (GM)	25% per quarter	4
Limited Life Component Exchange (LLCE)[3]	25% per quarter	4
H1616/1700 Packaging and Backfill Operation	25% per quarter	2
Parachute Exchange (PC)	25% per quarter	4
Retrofit or Alteration (ALT)[4]	25% per quarter	4
PAL Operations to include Unlock/Release	Determine Locally	2
Command Disable System	Determine Locally	1
All maintenance actions, documentation, and reporting associated with changing a retired weapon's status to inactive or active.	100% per quarter	1
Common Weapons Handling Tasks		
Transfer	10% per quarter	2
Transport	10% per quarter	2
Safeguard Transport Upload/Download or Prime Nuclear Airlift Force Movement	50% per quarter	2 (based on each task observed)
RV/RS Tasks		

Assemble/Disassemble RV	25% per quarter	4
Install/Remove RV	25% per quarter	4
Install/Remove Aft Shroud	25% per quarter	4
RS Electrical Checkout	25% per quarter	4
FDE (Includes Mod 5 kit/Non-nuclear Verification for Vandenberg)[4, 5]	100% per quarter	Determine Locally
Mate/Demate RS to/from Missile Guidance Set (MGS)	10% per quarter	2
Launcher/Pylon Tasks		
ALCM Mate to Pylon	25% per quarter	4
ALCM Mate to Common Strategic Rotary Launcher (CSRL)	25% per quarter	4
ALCM/Gravity Bomb WSEP[7]	100% per quarter	Determine Locally
Gravity Bomb Mate to RLA	25% per quarter	4
Mate/Demate Pylon to/from Load Frame	10% per quarter	4
Mate/Demate Launcher to/from Load Frame	10% per quarter	4
Payload Mate to Missile	25% per quarter	4
Mate/Demate MHU-196/204 Trailer with Launcher/Pylon	10% per quarter	4
Cruise Missile Tasks		
Engine Removal/Installation	10% per quarter	2
Missile Transfer	10% per quarter	1
Engine Prime	10% per quarter	1
Missile Fuel/Defuel	10% per quarter	2
Missile Level 1	10% per quarter	2
Loaded CSRL/Pylon Test	25% per quarter	1
Unloaded CSRL/Pylon Test	10% per quarter	2
ESTS Calibration Certification	10% per quarter	1
ESTS Operational Assurance Test	10% per quarter	1
General Tasks		
NWRM Component Packaging	25% per quarter	Determine Locally
*TCTO, MCL, One Time Inspection[8]	As a minimum, evaluate the first and last of each modification. Additionally, evaluate 10% per quarter, at a minimum.	Determine Locally
NOTES: 1. For the purposes of this table, a nuclear maintenance and inspection activity is any element or flight level organization that performs FDE activities, nuclear weapons maintenance, weapons mate/demate and weapons handling.		

2. Required percentages apply to forecasted maintenance only, not to unscheduled operations performed as a result of failed launcher/pylon test, MGS failure, etc. A sampling of unscheduled operations should be evaluated as the opportunity arises.
3. This includes ALT 900 series maintenance.
4. QA must observe the first weapon retrofit, alteration or modification (does not apply to ALT 900 series). **(T-3).**
5. This applies to both the shipping and receiving units in the FDE process. QA shall watch all applicable operations in the RS build-up or tear-down process for systems selected for FDE, including the inspection of RS/RV components. **(T-3).** Assemble/disassemble operations may be counted as personnel evaluations, including the packaging/unpackaging of components. After the fact inspections may be used by the evaluator to fulfill the 100% requirement. Appropriate AQL levels are applied to each applicable operation performed as part of the FDE.
6. In addition to Transfer, Transport and items identified under General Tasks, the following tasks apply to ICBM maintenance technicians only: Mate/Demate RS to/from MGS and FDE.
7. QA shall observe all WSEP operations involved in the build-up of the test package including warhead/bomb preparation for strike, required PAL operations, SI of launch gear prior to use, required warhead/bomb mate, required missile preparations, missile mate, CSRL loaded operation and a QVI of the fully assembled package in IMF after final supervisory inspections and prior to delivery to the flight line.
1. 8. When agreed by QA and unit leadership, certain TCTOs, MCLs, and OTIs may be inspected as QVIs instead of PEs.

Table 7.5. Minimum Sampling Requirements for PEs.

Requirement	Frequency	Remarks
Technicians		
PE for each technician certified in accordance with AFMAN 21-204 [1,2]	Quarterly	Eligibility begins the first full quarter following certification. PEs will be performed on different certifiable tasks each quarter. If certified on less than four tasks, quarterly PE task may be repeated on the same task.
PE for each ICBM/cruise missile maintenance technician	Initial	Field Training Detachment (FTD) trained technicians will receive a Proficiency Evaluation within 14 calendar days after graduation. Non FTD-trained technicians receive PE within 120 days of work center orientation.
	Quarterly	Eligibility begins the first full quarter following graduation /initial evaluation. PE will be conducted on JQS qualified task.

LF Entry/Exit	Initial	PE will be conducted prior to technician performing LF entry/exit unsupervised.
Emergency Procedure PE for all personnel qualified on launch facility enter/exit	Initial	PE will be conducted prior to technician performing unsupervised tasks at LF.
Trainers		
PE[5]	Initial **(Nuclear)**	Prior to conducting unsupervised training.
	Semi-Annual **(ICBM)**[6]	Performed on trainer conducting qualification/certification/recurring training.
	Annually **(Nuclear)**	Performed on trainer conducting qualification/certification/recurring training.
Evaluators		
EPE for Quality Assurance evaluator	Initial	Must be evaluated while conducting a PE and QVI or SI before performing unsupervised QA duties.
	Semi-Annually	Must be conducted while performing a PE.
Workcenter		
Each workcenter with technicians authorized to penetrate launch facilities	Quarterly	LF Emergency Procedure PE
Door-to-Door/Portal-to-Portal Evaluation[3,4]	Quarterly	Performed on any production workcenter.

NOTES:

1. Initial task certifications will not be credited towards annual evaluations.
2. For 2M0X1 and 2M0X2 technicians certified in accordance with AFMAN 21-204, PEs will be on 2 certified tasks and 2 non-certified tasks per year.
3. A door-to-door/portal-to-portal PE includes pre-task, task and post-task performance actions and is designed to evaluate the complete maintenance process.
4. Each ICBM 2M0XX Team Chief will receive an initial Portal-to-Portal evaluation within 120 days of Team Chief certification. **(T-1).**
5. This requirement is intended for those personnel whose primary duty is conducting work center qualification training and are assigned to, or augment training elements or sections. Group

Commanders may direct additional personnel to be subject to these requirements via the MSEP. A trainer who fails a semi-annual/annual PE will be restricted from performing unsupervised training. **(T-2)**.
6. Trainers also identified as team chiefs or technicians will maintain quarterly PEs. A semi-annual training PE may count as a quarterly PE.

Chapter 8

ACCESS, APPROVAL, AND AUTHORITY LIST (AAAL)

8.1. General Guidance.

8.1.1. The AAAL is used to identify personnel authorized to accept custodial responsibility and perform specific actions associated with a WSA or the Weapon Storage and Security System (WS3). The MASO uses the AAAL to control access to nuclear weapons. The unit commander certifies the AAAL, and Security/Custodial Forces authenticates the AAAL. AAAL management procedures in this chapter apply to all nuclear capable units. USAFE units will also comply with additional requirements in ACO 80-6/ECI 6801.01, *Nuclear Surety Management for the WS3*. **(T-0).**

8.1.2. Units using the Advanced Entry Control System (AECS) for authorizing entry into exclusion areas will have the MASO approve access by signing the appropriate section of the AF 2586, *Unescorted Entry Authorization Certificate*. **(T-1).** In the event of AECS failure, the unit will create a two-person access list using applicable requirements in **paragraph 8.2** and **paragraph 8.3** to ensure continued operations. **(T-1).**

8.2. AAAL Management.

8.2.1. The AAAL OPR will ensure the AAALs identify, as a minimum, all personnel authorized to complete the below listed actions: **(T-1).**

8.2.1.1. Issue and receive keys/code modules to weapons maintenance and storage structures/vaults. Personnel authorized to issue keys/code modules may also be authorized to receive keys/code modules.

8.2.1.2. Open and secure weapons maintenance and storage structures or lock or unlock weapon storage vaults (as applicable).

8.2.1.3. Open and close containers at Entry Control Points and secure keys to maintenance facilities or assembly, surveillance, and inspection type facilities.

8.2.1.4. Perform notifications to Security/Custodial Forces for personnel accessing weapons maintenance and storage structures, weapons storage vaults, or escorting personnel into the WSA.

8.2.1.5. WS3 AAAL specific:

8.2.1.5.1. Issue and receive alternate controller.

8.2.1.5.2. Issue and receive Universal Release Code Cards.

8.2.1.5.3. Perform WS3 maintenance.

8.2.2. The AAAL OPR will ensure the AAAL includes full name, codes authorized, rank (enlisted, officer, civilian, or contractor), last six of Social Security Number (SSN) or entire control number (CN) from government issued identification, security clearance, and Personnel Reliability Program (PRP) status (None, Interim, or Certified). **(T-1).**

8.2.3. Pen and ink additions without authenticated Change Letter are prohibited.

8.2.4. Quantities produced, and distribution of AAALs is determined locally.

8.2.5. Original signatures are required on all copies of the AAAL. If the AAAL pages are bound together in a single computer-run product, authenticate on the first or last page only, and indicate the number of pages. If the pages are separated each page requires authentication.

8.2.6. Code descriptions will be clear, concise, and not repetitive.

8.2.7. AAALs are to be published when determined by Operations Officer/Maintenance Superintendent or AAAL OPR.

8.3. Change Letters. Change Letters are used for interim changes to the AAAL (see **Figure 8.3**). A single letter may be used to add and delete individuals. Change Letters to an AAAL are to be consecutively numbered, beginning with number One (1), and identify the date of the AAAL it changes. With each revision of the AAAL, the Change Letter sequence number starts with One. These letters are authorized, certified, authenticated (except for deletion letters), and distributed in the same manner as the AAAL. Entries will be pen and inked (handwritten or typed) on referenced AAAL with Change Letters filed with or attached. **(T-1).**

8.3.1. Deletions. In cases where individuals or information must be deleted, Operations Officer/Maintenance Superintendent or designated representative will immediately notify all agencies possessing AAALs by telephone and document time, date, and agency called. **(T-1).** Each workcenter will place a single line through the entry on the AAAL upon receipt of the telephone notification. **(T-1).**

8.3.1.1. As soon as practical, the AAAL OPR will produce a Change Letter. **(T-1).** Letters will include member's full name, last six of SSN or entire CN from government issued identification, and change requested. Upon receipt of the Change Letter, the AAAL OPR will annotate the deleted entry with the Change Letter sequence number. **(T-1).**

8.3.1.2. Suspension from PRP duties alone does not require removal from the AAAL if other means of removing access to nuclear weapons are available (e.g., confiscation of line badge). An individual who has been PRP decertified must be removed from the AAAL. **(T-1).**

8.3.2. Additions. In cases where information is to be added, Operations Officer/Maintenance Superintendent or AAAL OPR will initiate a Change Letter. **(T-1).** Letter includes all information listed in **paragraph 8.2.2** and is processed using same procedures as processing AAAL. **(T-1).** Upon receipt of the authenticated Change Letter, the entry is pen and inked on the AAAL and the AAAL OPR will annotate with the Change Letter sequence number. **(T-1).**

8.4. Responsibilities.

8.4.1. Squadron Commander will:

8.4.1.1. Review and sign (certify) AAALs and addition letters. **(T-1).**

8.4.1.2. Ensure authorized individuals have a security clearance equal to or greater than the items being secured by the keys and locks or code modules. **(T-1).**

8.4.1.3. Ensure authorized individuals have appropriate PRP certifications. **(T-1).** An individual suspended from PRP duties is still considered interim certified/certified under the PRP.

8.4.2. Operations Officer/Maintenance Superintendent will:

8.4.2.1. Designate responsible OPR to maintain, update, review, and distribute AAAL and Change Letters and determines contents of legend (codes and description) for the AAAL. **(T-2).**

8.4.2.2. Review and sign (certify) deletion letters. **(T-1).**

8.4.3. The MASO will review and sign (authorize) AAALs and addition letters. **(T-1).** If the MASO is unavailable the MASO's appointing authority will sign the AAAL. **(T-1).**

8.4.4. Security/Custodial Forces will sign (authenticate) AAALs and Change Letters with additions in accordance with standard Security/Custodial Force processing procedures for Entry Authorization Lists. **(T-1).**

8.4.5. AAAL OPR will:

8.4.5.1. Consolidate Change Letters for current AAAL into a working copy AAAL. **(T-1).**

8.4.5.2. Ensure applicable flights, sections, and elements review working copy of AAAL prior to obtaining authorization signature from the MASO. **(T-1).**

8.4.5.3. Make corrections as required, and provide AAAL to MASO for review of access authorization. **(T-1).** Ensure review includes, but is not limited to verifying individuals are not given authorized access or knowledge of more than one combination protecting keys/code modules to nuclear maintenance facilities, storage structures, or weapon storage vaults. **(T-1).**

8.4.5.4. AAAL to the unit commander for certification, digital signatures are authorized. **(T-1).** The Squadron Commander's signature certifies proper security clearance, PRP status, and need for authorized access for the individuals listed.

8.4.5.5. Certified AAALs must be sent to Security/Custodial Forces for authentication. **(T-1).**

8.4.5.6. Ensure authenticated AAALs are immediately distributed to activities as required. **(T-1).**

8.4.6. Workcenters with personnel on or requiring inclusion in the AAAL will:

8.4.6.1. Submit inputs to the AAAL OPR. **(T-1).** Requests include, as a minimum, the member's full name, grade, clearance status, PRP status and type(s) of authorization/access.

8.4.6.2. Review AAAL to ensure information affecting personnel assigned to their organization is correct. **(T-1).**

8.4.6.3. Add, change, or delete information affecting assigned personnel by submitting requests to the AAAL OPR in sufficient detail to enable updates to be made. **(T-1).**

8.5. AAAL and Change Letter Examples. **Figure 8.1**, **Figure 8.2**, and **Figure 8.3** are AAAL and Change Letter examples only. The AAAL and Change Letter format is at unit discretion.

Figure 8.1. Example AAAL (Legend Page).

PREPARED: 27 March 2018

ACCESS APPROVAL AUTHORITY LISTING LEGEND

CODE	DESCRIPTION
01	Receive the "A" lock combination to the Primary and Spare key boxes for nuclear storage facilities
02	Receive the "B" lock combination to the Primary and Spare key boxes for nuclear storage facilities
03	Preannounce personnel accessing structures or escorting individuals into the WSA
04	Issue A or B keys for nuclear storage facilities
05	Issue/receive "A" side code module
06	Issue/receive "B" side code module
07	Issue/receive URCs
08	Issue/receive WS3 alternate controller

AUTHORIZED BY:

MASO

CERTIFIED BY:

Commander, 123 MXS

AUTHENTICATED BY:

123 SFS Authenticating Official

Page 2 of 3

Figure 8.2. Example AAAL (Personnel Authorization Listing).

PREPARED: 27 March 2018

ACCESS APPROVAL AUTHORITY LISTING

PERSONNEL AUTHORIZATIONS
SEC CHANGE

NAME	CODE	GRD	SSN/CN	CLEAR	PRP	LETTER
Guester, Raymond S.	01, 03	ENL	1234567890	TS	Certified	01
Hapler, Kevin G., Jr.	02, 03	ENL	67-8912	TS	Certified	
Driscoe, Richard J.	03, 04	CTR	12-4321	SEC	Interim	
Rayon, Jessie A.	02, 04	CIV	56-7891	TS	Certified	
Rosin, Benjamin J.	04, 05	ENL	45-6789	SEC	Interim	
Rich, Briana L.	01, 04	OFF	4560123789	TS	Certified	

AUTHORIZED BY:

KENDAL W. JANSEN, Capt, USAF
MASO

CERTIFIED BY:

JOHAN A. ROY, Lt Col, USAF
Commander, 123 MXS

AUTHENTICATED BY:

DAMON T. YONG, SSgt, USAF
123 SFS Authenticating Official

Page 3 of 3

Figure 8.3. Example Change Letter.

27 Mar 18

MEMORANDUM FOR 123 SFS/CC
123 MXS/MXM
FROM: 123 MXS/CC

SUBJECT: Access, Approval, Authority List (AAAL) Change Letter No. 1

1. Delete the following individual from AAAL, dated 1 January 05, by placing a single line through the entire line entry.

NAME	SSN/CN
Spades, Britton E.	65-4321

2. Add the following individual to AAAL, dated 27 March 17, by neatly writing the following information after the last entry:

NAME	CODES	GRD	SSN/CN	Sec Clear	PRP
Guester, Roy S.	01, 04	ENL	45-6789	TS	Certified

3. Post this letter with the AAAL. Upon receipt and validation of new AAAL, destroy this letter.

AUTHORIZED BY:

KENDAL W. JANSEN, Capt, USAF
MASO *(Only required for additions)*

CERTIFIED BY:

JOHAN A. ROY, Lt Col, USAF
Commander, 123 MXS *(OO/MX SUPT for deletion letters)*

AUTHENTICATED BY:

DAMON T. YONG, SSgt, USAF
123 SFS Authenticating Official

Chapter 9

TOOL AND EQUIPMENT MANAGEMENT

9.1. Tool and Equipment Management. The objectives of the tool and equipment management program are to prevent damage to weapon systems and support equipment, reduce costs through effective control and accountability, and ensure technicians are adequately resourced. Depot maintenance units will follow guidance in AFI 21-102, *Depot Maintenance Management*. **ALL** other units will follow guidance in AFI 21-101, with exceptions in the below paragraphs due to uniqueness of certain missions. MAJCOMs may dictate additional requirements.

9.1.1. Guidance in this chapter will be used for control and management of all tools/equipment used for aircraft/aerospace equipment maintenance, or tools which enter the flightline or aerospace equipment maintenance industrial areas and missile launch facilities/launch control centers. It may be supplemented by the MXG/CC in a Wing level publication if desired. The MXG/CC, or equivalent, is the OPR for development and will coordinate with all wing organizations that work in, or enter, the above mentioned areas to ensure they have established tool/equipment control procedures documented in the Wing publication. **(T-1).**

9.1.1.1. Non-dispatchable CTKs, tools, and equipment may be transported through, but are not permitted to enter flightline ramps, flightline roads, runways, flightline maintenance areas, or missile launch facilities/launch control centers. This includes all tools and equipment used for aircraft/aerospace equipment maintenance or which enter the flightline or aerospace equipment maintenance industrial areas. (i.e. Weapons Load Barn)

9.1.2. CTKs, tools, and equipment are considered 'dispatchable' when they are designated to be taken to flightline areas or missile launch facilities/launch control centers.

9.1.2.1. These procedures become effective for such tools and equipment at the Foreign Objects Debris (FOD) inspection point prior to entering flightline areas.

9.1.3. Electronic devices, such as the Munitions Integrated Tablet (MIT), accessories, and other associated Automatic Identification Technology devices are not subject to tool management procedures (regardless if software such as e-Tools is installed), unless such devices are dispatchable to flightline areas or missile launch facilities/launch control centers. While they may provide an e-Tool functionality, these devices provide expanded capability at the point of use in the maintenance environment as well as remote command, control, and communication in the form of desktop or mobile computing. They will be tracked by an Information Technology Equipment Custodian in accordance with AFMAN 17-1203, *Information Technology (IT) Asset Management (ITAM)*. In addition to AFMAN 17-1203 asset management requirements, units will ensure MITs that are designated as dispatchable also comply with AFI 21-101 requirements. **(T-1)**.

9.2. Guidelines for Program Management. In addition to the requirements in AFI 21-101, for control and management of tools/equipment that enter flightline areas or missile launch facilities/launch control centers, the Group Commander, as a minimum, may provide guidance in the wing publication for the following:

9.2.1. Procedures and responsibilities when workcenters elect to dispatch tools and equipment to flightline areas or missile launch facilities/launch control centers. **(T-1).**

9.2.2. Procedures for transfer of tools and equipment at the job site (on-site transfers). **(T-1**). As a minimum, losing and gaining team shall accomplish a complete inventory prior to transfer and document the transfer on an AF Form 1297, *Temporary Issue Receipt*, or equivalent. **(T-1).**

9.3. General Program Guidelines.

9.3.1. Conventional munitions work centers are not required to establish centralized support sections or tool rooms. Tool kits, HAZMAT, and other support items may be located in the munitions maintenance area at the discretion of the Flight Chief. Custodial control will be maintained by personnel in the maintenance area. **(T-1).** When in a munitions maintenance controlled area, other than flightline areas, such resources will be considered secured.

9.3.1.1. FOD discovered outside flightline areas in CTKs, equipment, and vehicles will be considered a CAT II minor finding for QA evaluation and inspection criteria. CAT II minors shall be documented for trends, but will not be counted against the AQL.

9.3.2. In addition to the requirements in AFI 21-101, CTK custodians, supervisors and users will ensure all items dispatchable to the missile launch facility/launch control centers will conform to the requirements of T.O. 21M-LGM30F-12, *Minuteman Nuclear Surety Procedures*, and DESR 6055.09_AFMAN 91-201, when used in explosive environments.

9.4. Tool Accountability. Flight Commanders/Chiefs and workcenter supervisors, through CTK custodians, are responsible for management of tools and equipment. Users are accountable for items until returned.

9.4.1. Units will account for all CTKs, tools, and dispatchable equipment at the beginning and end of each shift **(T-1)**. Units will ensure separate shift inventories are documented by both outgoing and incoming personnel **(T-2)**.

9.4.2. Inventory Procedures.

9.4.2.1. Perform a visual inventory of all dispatchable CTKs, tools, and equipment when issued for use, at the completion of job or tasks in the Missile Alert Facility/Launch Control Center or flightline areas, and when returned to the tool storage facility. **(T-1).**

9.4.2.2. Perform a visual inventory of all non-dispatchable CTKs, tools, and equipment prior to use and at the end of each shift if opened.

9.4.2.3. Account for consumables by quantity or unit of issue and replenish them as they are used. **(T-1).**

9.4.2.4. Handle lost or missing items in accordance with **paragraph 9.6**.

9.4.2.5. Process reports of survey for CTKs, tools, and equipment that are lost, damaged, or destroyed where negligence is suspected in accordance with applicable Air Force Instructions. **(T-3).**

9.5. Marking and Tool Identification.

9.5.1. All units must mark and control their dispatchable CTKs, tools, and equipment in accordance with AFI 21-101. **(T-1).**

9.5.2. Non-dispatchable CTKs and tools will be marked with a workcenter or tool room unique World Wide Identification (WWID) code and identifying character(s) that ties the tool back to the CTK. **(T-1).**

9.5.2.1. The first two letters of the WWID are based on the Wing's/unit's personnel assignment system base code. If required, request additional codes from HQ SSG/ILM, Gunter Annex, Maxwell AFB, AL.

9.5.2.2. The third and fourth characters designate the unit or shop by using unique characters. To ensure workcenters and tool rooms have unique identifiers, units ensure other units within the same wing do not duplicate the WWID.

9.5.3. Small tools and/or items that cannot be marked as described above (such as drill bits, allen wrenches in sets, apexes, etc.) will be maintained in a container marked with the WWID and an identifying character(s) that ties the tool back to the CTK along with the number of tools contained. **(T-1).**

9.6. Lost or Broken Item/Tool Procedures.

9.6.1. Missile Field Operations. If a tool or equipment item that is dispatchable to the missile launch facility/launch control center, or a portion of, is discovered missing, the following procedures apply:

9.6.1.1. The person identifying the missing item searches the immediate work area. **(T-1).** If dispatched away from a primary workcenter, the team contacts their appropriate control center for potential hardness degrade condition. **(T-1)**.

9.6.1.2. The responsible team shall initiate a Lost Tool Report and route per locally-established guidance. **(T-1).**

9.6.1.3. The team will complete initial search within 4 hours on base, or within 24 hours off base, of discovering the item missing. **(T-1)**. If team cannot conduct off base search within 24 hours coordinate with scheduling section to accomplish initial and subsequent searches.

9.6.1.4. The team will update the Maintenance Information System and associated Master Inventory Listings to reflect the current inventory status of the CTK if the tool cannot be immediately found. **(T-1)**. The item will be replaced as soon as possible.

9.6.2. Munitions Operations. If a non-dispatchable tool or equipment item is found broken or discovered missing in a munitions maintenance controlled area, the following procedures apply:

9.6.2.1. The person identifying the missing item will search the immediate work area.

9.6.2.1.1. **(Conventional and Nuclear Units)** If the missing item is not found after completing an initial search, the Munitions Flight Chief or Munitions Squadron Superintendent, at their discretion based on the potential for FOD in the flightline area, will direct Munitions Control to notify MOC and QA and initiate a lost tool report per AFI 21-101. **(T-1).**

9.6.2.1.2. **(ICBM units)** If the missing item is not found after completing an initial search, the applicable Flight CC/Chief will contact MMOC and QA and initiate a lost tool report per AFI 21-101. **(T-1).**

9.6.2.2. The Maintenance Information System and associated MILs will be updated to reflect the current inventory status of the CTK if the tool cannot be found. **(T-1)**. The item will be replaced as soon as possible.

9.6.3. QA will maintain completed reports for trend analysis **(T-3)**.

9.6.4. If dispatchable or non-dispatchable equipment items are broken or damaged, annotate on the Master Inventory List. If the item has inspection and maintenance records maintained in a MIS, ensure the MIS is updated with the equipment discrepancy. **(T-1).**

JOHN B. COOPER, Lieutenant General, USAF
DCS/Logistics, Engineering & Force Protection

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 21-101, *Aircraft and Equipment Maintenance Management,* 16 January 2020

AFI 21-103, *Equipment Inventory, Status, and Utilization Reporting,* 30 April 2020

AFI 23-111, *Management of Government Property in Possession of the Air Force,* 19 November 2018

(ADDED) AFI 33-322, *Records Management and Information Governance Program,* 23 March 2020

AFI 38-101, *Manpower and Organization*, 29 August 2019

AFI 63-101_20-101, *Integrated Life Cycle Management*, 30 June 2020

AFI 63-125, *Nuclear Certification Program*, 16 January 2020

AFI 91-101, *Air Force Nuclear Weapons Surety Program*, 26 March 2020

AFMAN 17-1203, *Information Technology (IT) Asset Management (ITAM)*, 18 May 2018

AFMAN 21-203, *Nuclear Accountability Procedures*, 22 November 2019

AFMAN 21-204, *Nuclear Weapons Maintenance*, 13 August 2019

AFMAN 23-122, *Materiel Management Procedures*, 14 December 2016

AFMAN 23-122, *Materiel Management Procedures*, 27 October 2020

(ADDED) AFMAN 32-1065, *Grounding & Electrical Systems*, 17 July 2020

(ADDED) AFMAN 32-3001, *Explosive Ordnance Disposal (EOD) Program*, 26 April 2019

(ADDED) AFMAN 36-2100, *Military Utilization and Classification,* 7 April 2021

AFMAN 91-221, *Weapons Safety Investigations and Reports*, 26 March 2020

AFPD 13-5, *Air Force Nuclear Mission*, 17 July 2018

AFPD 21-2, *Munitions,* 6 October 2020

AFPD 91-1, *Nuclear Weapons and Systems Surety*, 24 October 2019

CJCSI 3263.05, *Nuclear Weapons Technical Inspections*, 28 September 2020

(ADDED) DAFI 10-401, *Operations Planning and Execution*, 13 January 2021

(ADDED) DAFI 31-101, *Integrated Defense (ID)*, 25 March 2020

(ADDED) DAFI 33-360, *Publications and Forms Management*, 1 December 2015

(ADDED) DAFI 91-204, *Safety Investigations and Reports,* 10 March 2021

(ADDED) DAFMAN 21-201, *Munitions Management,* 26 March 2019

(ADDED) DAFPD 10-9, *Lead Command/Lead Agent Designation and Responsibilities For United States Air Force Weapon Systems, Non-Weapon Systems, and Activities,* 25 May 2021

(ADDED) DESR6055.09_AFMAN91-201, *Explosives Safety Standards*, 28 May 2020

(ADDED) DoD S-5210.41-M_AFMAN31-108V1-S, (S) The Air Force Nuclear Weapon Security Manual (U), 2 May 2019

(ADDED) DoDM 5030.55_AFMAN 63-103, *DoD Procedures For Joint DoD-Department Of Energy/National Nuclear Security Administration (DOE/NNSA) Nuclear Weapon Life-Cycle Activities*, 10 August 2018

DoDM 5100.76, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives (AA&E)*, 17 April 2012

(ADDED) DoDM 5200.01V3_AFMAN 16-1404, Volume 3, *Information Security Program: Protection of Classified Information*, 23 December 2020

DoDM S-5210.41, *Nuclear Weapon Security Manual*, 11 August 2016

T.O. 00-5-1-WA-1, *Air Force Technical Order System*

T.O. 00-5-15, *Air Force Time Compliance Technical Order Process*

T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies and Procedures*

T.O. 00-20-2, *Maintenance Data Documentation*

T.O. 00-25-107-WA-1, *Maintenance Assistance*

T.O. 00-25-108-WA-1, *Communications-Electronics (C-E) Depot Support*

T.O. 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*

T.O. 11N-5-1, *Unsatisfactory Reports*

T.O. 11N-20-11, *General Firefighting Guidance*

T.O. 11N-40-1, *Field Modernization and Retrofit Orders*

T.O. 21M-LGM30F-12, *Minuteman Nuclear Surety Procedures*

T.O. 44H2-3-1-101, *Operation and Maintenance Instruction, High, Medium, Low Security Hardware*

Prescribed Forms

None

Adopted Forms

AFTO Form 22, *Technical Manual Change Recommendation and Reply*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1297, *Temporary Issue Receipt*

AF 2407, *Weekly/Daily Flying Schedule Coordination*

AF Form 2419, *Routing and Review of Quality Control Report*

AF 2427, *Lock and Key Control Register*

AF 2432, *Key Issue Log*

AF 2435, *Load Training and Certification Document*

AF 2586, *Unescorted Entry Authorization Certificate*

Optional Form 89, *Maintenance Record for Security Containers/Vault Door*

Abbreviations and Acronyms

AAAL—Access, Approval, and Authority List

ACC—Air Combat Command

AETC—Air Education and Training Command

AFCOMAC—Air Force Combat Ammunition Center

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFMC—Air Force Materiel Command

AFMC2—Air Force Munitions Command and Control

AFNWC—Air Force Nuclear Weapons Center

AFPD—Air Force Policy Directive

AFTO—Air Force Technical Order

(ADDED) ALCM—Air Launched Cruise Missile

ANG—Air National Guard

AQL—Acceptable Quality Level

ARC—Air Reserve Component

CFETP—Career Field Education and Training Plan

CTK—Composite Tool Kit

CSRL—Common Strategic Rotary Launcher

(ADDED) DAFI—Department of the Air Force Instruction

(ADDED) DAFMAN—Department of the Air Force Manual

(ADDED) DAFPD—Department of the Air Force Policy Directive

(ADDED) DESR—Defense Explosive Safety Regulation

DIAMONDS—Defense Integration and Management of Nuclear Data Services

DoDAAC—DoD Activity Address Code

(ADDED) DoDM—Department of Defense Manual

DOE—Department of Energy

DSV—Direct Safety Violation

EOD—Explosive Ordnance Disposal

EPE—Evaluator Proficiency Evaluation

ESTS—Electronics Systems Test Set

EWO—Emergency War Order

FDE—Force Development Evaluation

(ADDED) FIELDCOM—Field Command

FOD—Foreign Objects Debris

FOUO—For Official Use Only

(ADDED) FTD—Field Training Detachment

ICBM—Intercontinental Ballistic Missile

ILD—Internal Locking Device

IMDS—Integrated Maintenance Data System

JNWPS—Joint Nuclear Weapons Publication System

LF—Launch Facility

LLA/PLA—Launcher Loader Adapter/Pylon Loader Adapter

MAF—Missile Alert Facility

MAJCOM—Major Command

MASO—Munitions Accountable Systems Officer

MCL—Master Change Log

MGS—Missile Guidance Set

(ADDED) MIS—Maintenance Information System

(ADDED) MIT—Munitions Integrated Tablet

(ADDED) MMA—Maintenance Management Analysis

MMOC—Missile Maintenance Operations Center

MMXS—Missile Maintenance Squadron

MOC—Maintenance Operations Center

MSA—Munitions Storage Area

MSEP—Maintenance Standardization & Evaluation Program

MUNS—Munitions Squadron

MUNSS—Munitions Support Squadron

MXS—Maintenance Squadron

NATO—North Atlantic Treaty Organization

NEW—Net Explosive Weight

NMC2—Nuclear Munitions Command & Control

NNSA—National Nuclear Security Administration

NWRM—Nuclear Weapons-Related Materiel

OIC—Officer in Charge

OSC—Organizational Source Code

P&S—Plans and Scheduling

PACAF—Pacific Air Forces

PAL—Permissive Action Link

(ADDED) PE—Proficiency Evaluation

PIM—Product Improvement Manager

PRP—Personnel Reliability Program

QA—Quality Assurance

QD—Quantity Distance

RS—Reentry System

RV—Reentry Vehicle

SEV—Stockpile Emergency Verification

TCTO—Time Compliance Technical Order

TDV—Technical Data Violation

TICMS—Theater Integrated Combat Munitions System

TMDE—Test, Measurement and Diagnostic Equipment

T.O.—Technical Order

TODO—Technical Order Distribution Office

UCR—Unsatisfactory Condition Report

USAFE—United States Air Forces Europe

(ADDED) WR—War Reserve

WS3—Weapons Storage and Security System

WSA—Weapons Storage Area

Terms

Electronic Tools (eTools)—eTools (desktop and laptop computers, hand held devices, Portable Maintenance Aids (PMA), etc.) are common infrastructure which allow access to electronic TO files, logistics information systems, update TOs, provide automated change requests (similar to AFTO Form 22) and integrate with other Maintenance Information Systems (MIS).

Major Finding—A condition that could endanger personnel, jeopardize equipment or system reliability, affect safety of flight, compromise security standards, violate Weapon System Safety Rules, warrant discontinuing the process or equipment operation, or condemn serviceable equipment. Any major discrepancy results in an automatic inspection or evaluation failure.

Minor Finding—Is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, affect safety of flight, jeopardize equipment reliability, or warrant discontinuing a process or equipment operation.

No—**Lone Zone-**Area where the two-person concept must be enforced because it contains nuclear weapons, nuclear weapons systems, or certified critical components.

Two—**Person Concept-**Designed to ensure that a lone individual is denied access to nuclear weapons, nuclear weapon systems or critical components, never allowing the opportunity for tampering, damage, or an unauthorized act to go undetected. The Two-Person concept requires the presence at all times of at least two authorized persons, each certified under Personal Reliability Assurance Program (PRAP), knowledgeable in the task to be performed, familiar with applicable safety and security requirements and each capable of promptly detecting an incorrect act or improper procedure with respect to the task to be performed. Both members must have completed required nuclear surety and PRAP training.